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Marksmanship at the Infantry School

By Colonel A. J. Macnab, Infantry

THE object of the Infantry School is to develop approved methods of training for the use of the infantry organizations of the Army and to establish standards of excellence which the infantry organizations will be required to reach.

The methods of instruction in marksmanship now in use at the Camp Benning School are to be written into the new Small Arms Firing Manual, and the scores made by the classes are to be used as a basis in fixing the minimum standard of excellence which each separate organization of the infantry will be required to attain. The day has gone by when the commander of a very poor shooting company has nothing to fear so long as his reports and returns are properly made out.

For this reason the results obtained in the Marksmanship course by the class now at Camp Benning, and the methods used in obtaining these results, are of immediate interest to the whole service.

The class consists of the infantry officers who graduated from West Point in 1919. One hundred and twenty-four officers completed the course with the following result: ninety-five qualified as Expert Rifleman, twenty-four qualified as Sharpshooter and five qualified as Marksman. None was unqualified. The average score per man, found by adding all the scores and dividing the sum by the number of men shooting, was 260.58. The high score, 287, was made by Lieut. R. L. Williamson. As far as is known, 287 is the highest score that has ever been made in the Army in record firing.

It will not do for the reader, if he is an officer of the Army, to now remark: "These figures are interesting, if true, but very probably not true," and dismiss the matter from his mind. These figures concern directly every officer of the service, because they are to form a basis for the fixing of a standard which he will have to reach with his organization in the future to avoid being investigated for incompetence. It is not expected that the average company will be made up of men who rank as high in intelligence and education as this particular class, but records only slightly lower than this have been made, and are being made, with the ordinary company by using the same methods.

A brief résumé of the development of this method of instruction will show that it is not something new and in the experimental stage.

It was first developed in the Second Battalion of the 14th Infantry at Fort Lawton, in 1914, and put into effect in the entire battalion in 1915. Of the 263 men in the battalion, 167 qualified as Expert Rifleman, 68 as Sharpshooter, 27 as Marksman, and one was unquali-

fied. This result was published at the time, was promptly branded by the entire service as false, and was dismissed from the mind.

In 1916 it was used in Company B of the 25th Infantry at Schofield Barracks. The result was that this company, in one target season, went from the worst company in the department by a wide margin, to the best by an equally wide margin, and this in a department where there were four white regiments, all of them proud of their shooting ability. The results were accepted as true in this case, and a good deal of interest in the methods used was shown.

On account of the result obtained in the Hawaiian Department this method of instruction was put into effect in the 83d Division at Camp Sherman in 1917. Six hundred officers and noncommissioned officers were taken to Camp Perry to be trained as instructors while the range at Camp Sherman was being built. The class at Camp Perry lasted a little over two weeks, and the average score per man on the qualification course was a fraction higher than Expert Rifleman. This class was a purely 83d Division affair. It had no connection with the school later established at Camp Perry. The results obtained with the division at Camp Sherman under the guidance of these instructors were no less remarkable. Each colonel who finished target practice with his regiment gained a reputation for untruthfulness among those colonels who had not yet seen the thing work out.

When the 83d Division went to France it was made a depot training division. It established and ran six large rifle ranges with a total of 775 targets, and trained from 30,000 to 100,000 recruits a month. The average time a recruit was in the hands of the division was ten days, and during those ten days he learned to shoot. Owing to the results obtained with these recruits in the 83d Division, the other training divisions were ordered closed and the 83d was directed to be ready to handle all recruits coming to France, the number expected being about 150,000 per month. This number never actually arrived during any one month, but the division was ready for them and would have had them but for the signing of the armistice.

Based upon the results being obtained at Le Mans, where the 83d Division ranges were located, the authorities at G. H. Q. decided to adopt the same system of rifle training for the whole Expeditionary Force, and 300 officers and noncommissioned officers of this division were sent out to the various infantry organizations as instructors. Several hundred thousand of the pamphlets used at Le Mans were distributed to the Army, and later this was revised and issued as the A. E. F. Small Arms Firing Manual. Wherever the prescribed methods were carried out with any attention to detail the results were very good, in spite of the handicaps as to weather, homesickness and lack of range facilities. General Pershing, in one official document on the subject, states that the "methods were applied to the infantry of the American Expeditionary Forces with extraordinary success."

It is not the intention to give in this article a detailed description of the system. The exact methods to be followed will be laid down in "The Soldiers' Handbook of the Rifle and Score Book" and in "Rifle Marksmanship" (revision of Small Arms Firing Manual), both of which will be issued to the service before the next target season.

However, a short description of the way the class was handled and the difficulties that were encountered and overcome, and a discussion of some of the methods that differ materially from those usually used in the past, may prove interesting, and possibly instructing.

The A. E. F. Small Arms Firing Manual was used as a guide, and each student was issued a copy of the manual, together with the small lecture pamphlet that was printed in France as a guide to instructors.

Eight days were devoted to the preliminary instruction, and this preliminary instruction was divided into six separate phases or steps. Each step was preceded by a lecture and demonstration to the assembled class, showing just how each of the things pertaining to that step was to be done and explaining the reason for doing it and its relation to shooting as a whole. The steps were: Sighting and aiming, positions, trigger squeeze, rapid fire, effects of light and weather and sight changes, and final examination of students on all points taken up in preliminary. Nomenclature and repair of rifles were not made a subject of special study. During the course of the instruction the necessary nomenclature was gradually learned, and the necessary repairs that were made on the students' rifles from time to time gave them all the instruction necessary.

The main points of difference between the preliminary instruction under this system and that usually given to troops in the past are:

(*a*) None of the purely physical exercises, known as "push and pull," are given.

(*b*) The triangle sighting exercises are given at a range of 200 yards with an 8-inch aiming disk, after first having instructed the class in the principles of aiming at close range with the small disk.

(*c*) The description of the proper method of pressing the trigger differs materially from the description usually given, and the trigger squeeze exercise is different.

(*d*) Each man undergoing instruction has a coach beside him whenever he is going through any of the preliminary exercises, and no man is ever idle while waiting his turn to be put through an exercise. Each member of the class is either coaching or being coached during the entire working period.

(*e*) Each squad leader keeps a card on which is printed each of the items necessary for a man to know in order to be a good shot. The name of each member of the squad is written on this card, and each one must qualify individually in all of the enumerated points before he is allowed to go on the range.

The reasons for the above enumerated differences are briefly as follows:

(*a*) Any man who is physically able to walk to the firing point has all the strength necessary to make a score well over 40. If he is making very low scores it is because he is not aiming and squeezing the trigger properly. To give him "push and pull" exercises is no more beneficial than to have him take a trip in a balloon or a ride in a sightseeing automobile, or doing anything else except to learn to hold his aim while he squeezes the trigger in the right way. To take a man off the firing point who is making low scores and give him "push and pull" with a view to improving his scores is about as sensible as to have him skip the rope as a means of teaching him how to remove a tire from an automobile. Good physical condition is of course an asset to an excellent shot, and physical

exercises may help to raise his scores from an average of 47 to an average of 47.5, but physical exercises will not help in the least degree a man who is averaging under 40. Each man undergoes all the necessary muscular training while he is being taught to aim, how to take the correct positions, how to squeeze the trigger, and in acquiring a habit of smooth and rapid bolt manipulation.

(*b*) In long-range sighting exercises men learn to take an accurate and uniform aim at a distant bull's-eye, the outlines of which are more or less indistinct. If these exercises are held only a short distance, where the outlines of the bull's-eye are clear cut and distinct, they will feel at a loss when first taken to the range to fire at a bull's-eye that is distant. Many of them will imagine that there is something wrong with their eyes and will become discouraged before they start to shoot. If they have been able to make small triangles at long range during the preliminary period, they will know that their low scores are not the result of any real or imaginary defect in their eyes which prevents their taking a uniform aim.

(*c*) Practically all writers on the subject of rifle firing have described the trigger squeeze in the wrong way. They had the right way in mind, but they so worded their description that anyone trying to follow out the description would do it the wrong way. No good shot gives the trigger a sudden pressure at the instant he sees the sights properly aligned. He never increases the pressure on the trigger except with a steady increase, and consequently he does not know the exact instant at which the discharge will take place. He may, through training, be able to fire the piece in as short a time as one second, but still he does not know at just which part of the second the discharge will take place, because the pressure is a steady one and not a sudden jerk. Consequently the beginner must be told to squeeze the trigger with such a steady pressure as not to know exactly when the rifle will go off. To this description of the trigger squeeze, and to the methods adopted to see that it is done, is due the whole credit for the increase in scores under the methods now in use over the methods usually employed in the past. Up to a state of excellence considerably above that required to be an Expert Rifleman the difference between shots is due entirely to their difference in the way of squeezing the trigger.

The fact that the whole art of shooting is in pressing the trigger so steadily as not to know when the hammer will fall was demonstrated on a class of 76 field officers at the Second Corps school in France. These officers ranged in ability from men who had had no target practice to Expert Riflemen. After a short course in aiming, positions, and trigger squeeze they were taken to the rifle range, and, after getting their elevations, fired the best score they could alone. Then, without leaving the firing point, they fired another score in which the members of the class who were acting as coaches pressed the trigger for them. The coaches had been instructed to watch the firer's back until it was seen that he was holding his breath, and then to fire the piece by a steady pressure on the trigger. The result was that only three of the class of 76 made a higher score when they fired alone than they did when the coach pressed the trigger for them. The lowest score made when the coach pressed the trigger was 42 out of a possible 50. The lowest score made by any member firing alone was 26. A

month later a second class of the same number of field officers was put through the same test with exactly the same results. Only three of them made a higher score when they fired alone; the lowest score when the coach pressed the trigger was 42 and the lowest score made when firing alone was 26.

The trigger-squeeze exercise, for the first half-day at least, is given in the prone position so as to eliminate at the very beginning the temptation to try to snap in the shot at the instant the sights touch the bull's-eye.

(*d*) The best way to learn anything is to attempt to teach it. The work in the squad is so organized that no two men are ever idle. While they are waiting their turn to be worked on by the squad or platoon leader they are paired off and take turns in coaching each other, either on the day's work or on the work of the preceding days.

(*e*) Without an individual check-up system there is no efficiency in any form of instruction. Men can go through a drill or a phase of instruction as part of a squad or platoon any number of times, and then an examination of the individuals will reveal the fact that each one has missed some of the points, and that some of them have missed most of the points. Where an individual check-up system is used from the beginning each man will receive individual training on each of the points, and he will be given the most instruction on the points in which he, individually, requires the most instruction.

This individual instruction, both in the preliminary work and in range practice, requires close personal attention from the officers and noncommissioned officers of the organization. No system of instruction will work itself. No magic elixir has been devised that can be poured over a pamphlet and thereby cause the mere possessor of it to do good shooting. One officer in the Hawaiian Department, having observed the results obtained by this method in another company, decided to use it on his company. But after having obtained the pamphlet and read it over he complained bitterly about it. He said that it was not a system at all, it was "just a hell of a lot of work." So it was, and so it is. But it explains how to put in the work where it will do the most good.

During the preliminary period a rainy day was utilized in examining rifles, repairing defects, and in reducing trigger pulls and eliminating the creep. The rifles, having been turned out during the war, required a great deal of attention. Many loose front and rear sights were found, and a few rifles were found in which the barrel was not fastened tightly to the receiver. As many size 6 peep sights as could be located in the post were obtained and were put on the rifles of the men who were having difficulty in aiming. All of the sights should have the size 6 peep if they can be obtained. During the period of range practice a mechanic with a repair kit was stationed back of the firing line, and he was busy most of the time. In spite of the fact that grease was used on the bullets many of the rifles rapidly became metal-fouled. This was removed by the mechanic on the range with the ammonia solution. Usually the use of grease on the bullets will prevent all metal fouling, and even powder fouling. It is possible that rifles turned out during the war have not as smooth a finish on the bore and metal-foul more readily in consequence.

The work on the range was so organized that no man was ever idle. A

row of pistol targets was placed on the flank of each firing point, and so located that the pistol and rifle firing points were on one line and separated by an interval of about 50 yards. The class was divided into two platoons, and while one platoon was firing on the rifle range the other was firing on the pistol range, some of the time during the eight days of preliminary practice having been devoted to preliminary pistol work.

There were two orders on each range. While the first order was firing the second order acted as coaches. When the second order was firing the first order acted as coaches. When the first platoon finished firing on the rifle range it moved to the pistol range, and the second platoon took its place on the rifle range. The platoon on the pistol range finished their scores first, and the men of this platoon would be back of the firing points on the rifle range in time to fill up the targets as fast as they became vacant. When the rifle firing was finished at one distance the whole line moved back and continued the alternate rifle and pistol firing as before.

Some of the time the platoon that was not firing the rifle was back of the line practicing rapid bolt manipulation in preparation for rapid fire. Full-sized rapid-fire targets were placed at appropriate distances for this practice. The night study periods were usually devoted to theoretical instruction on the use of the automatic rifle.

Practically all of the coaching was done by the members of the class. The school instructors watched the men who were coaching and prompted them when they failed to apply the necessary corrective measures to the man firing, but the actual coaching was done almost entirely by the members of the class.

The coaches devoted their entire time in watching to see if the firer squeezed the trigger so steadily as not to know just when the discharge would take place, and to correcting the fault if the trigger were not squeezed in this way. Any man who has been through a proper course of preliminary work has learned to aim and to hold well enough to make a good score. As soon as he has learned to squeeze the trigger properly he is a good shot. No human being, no matter how old a shot, can avoid flinching, or bracing for the shot, if he knows exactly when the shock is to come. The coach detects this flinch by watching the firer's right eye, and every time he sees him wink he cautions him that the trigger was not pressed properly. When a man is doing poor shooting the coach proves to him that it is because of improper trigger squeeze by pressing the trigger for him a few times while the man under instruction holds and aims the rifle. Shots fired in this way are almost invariably good ones.

In order to eliminate, at the very beginning, the temptation to try to snap in the shot at the instant the sights are seen to be properly aligned, the firing began with ten shots in the prone position with the sandbag rest at each of the ranges, 200, 300, 500, and 600 yards. This was followed by slow fire in the prone position without the sandbag rest at the same distances. Thereafter slow and rapid fire, at the distances and in the positions prescribed for the qualification course, alternated.

The one radical change in the form of rapid-fire instruction was the mixing of dummy and live cartridges in such a way that the man firing did not know which would go off and which would not. The value of this method of training for rapid fire can hardly be exaggerated.

Wherever it has been used it has proven a success. Many men who are excellent slow-fire shots will flinch as soon as they try to fire a rapid-fire score; most old shots do it, although they will not admit it. This flinch is due to the fact that they press the trigger in rapid fire with a sudden pressure instead of a steady pressure, consequently they know exactly when the shock is to come and invariably brace for it. This bracing for the shock is something that no human being can control if he knows the exact instant it is to come.

When the discharge takes place this bracing for the shock is covered up by the consequent recoil, and the firer is not conscious of having braced. But when the cartridge fails to explode and there is no recoil, the shoving forward of the shoulder to meet the shock, that does not come, is apparent to everyone in the vicinity, including the man who did the bracing. After he has done this a few times he will try not to brace for any of the shots so as not to appear foolish in the eyes of the observers, and in his own eyes. He does this by giving the trigger a steady instead of a sudden pressure.

With this class nothing but scores of mixed dummies and live cartridges were used until after they had had several days of rapid-fire practice. And after they began to fire full scores of loaded cartridges these scores were always preceded by a score with dummies mixed in, to steady them down. The result of this training was that on record practice practically no poor groups were made in rapid fire. The few low scores that were recorded were due to getting the group in the wrong place, but the groups themselves were all good.

The ammunition used in the instruction practice was all class B and was very poor stuff. It had to be very carefully sorted in order to get any kind of instruction at all out of it. Some of the clips of five cartridges had bullets of five different shapes. About 16,000 rounds of pre-war ammunition were discovered in the storehouse and set aside for record practice. Each mem- of the class had only a few rounds of this to fire at each range, to get his elevations, before going to record practice. This lack of good ammunition was a decided handicap, but, by a careful sorting of the ammunition and the saving of the good ammunition on hand for record practice, the handicap was to a great extent overcome.

No gallery practice preceded the range practice, due to the fact that none of the reduced load cartridges for the service rifle, which is the gallery cartridge to be used in the future, were available.

The record practice was carried out with the strictest interpretation of the rules for record practice and competitions. In addition to the scores kept at the firing line, scores were kept in the pit by officers and certified to by them as correct. As the officers in the pit did not know for whom they were scoring, and as the pit score card had to be checked up later with the firing line card, there was no chance to falsify a score. No score card from the pit differed from the score card at the firing line by more than one point, and in the few cases where this difference existed it did not affect the qualification of the member of the class concerned.

The total elapsed time, from the beginning of the preliminary instruction to the completion of the record practice, was a little over five weeks, and during these five weeks the pistol instruction was also held, as well as all of the theoretical instruction in the automatic rifle.

In conclusion it might be well to add, for the benefit of those who are interested in avoiding future investigation for poor results in target practice, that the danger of the new manual to be issued lies in the fact that at first glance it looks like the same old stuff. The careless reader is apt to glance through it and, seeing that the headings are very familiar, take for granted that the reading matter under the headings is also familiar and proceed to go through the target season in the same old familiar way. The results obtained by this kind of an officer will be surprisingly poor.

The new manual really lays down a system in detail, which, if carefully followed, will really produce results. To an officer who takes a sporting interest in the shooting game it will be a pleasure. To the officer who is not interested it will probably be, to quote the captain in Hawaii again, "a hell of a lot of work."

War Story of the American Red Cross Told in Round Figures

Contributions received (material and money)	$400,000,000
Red Cross members; Adults, 20,000,000; children, 11,000,000	31,000,000
Red Cross Workers	8,100,000
Relief articles produced by volunteer workers	371,577,000
Families of soldiers aided by home service in U. S.	500,000
Refreshments served by canteen workers in U. S.	40,000,000
Nurses enrolled for service with Army, Navy or Red Cross	23,822
Kinds of comfort articles distributed to soldiers and sailors in U. S.	2,700
Knitted articles given to soldiers and sailors in U. S.	10,900,000
Tons of relief supplies shipped overseas	101,000
Foreign countries in which Red Cross operated	25
Patient days for soldiers and sailors in Red Cross hospitals in France	1,155,000
French hospitals given material aid	3,780
Splints supplied American soldiers	294,000
Gallons of nitrous oxide and oxygen furnished French hospitals in France	4,340,000
Soldiers served by Red Cross canteens in France	15,376,000
Civilian refugees aided in France	1,726,000
American convalescent soldiers attending Red Cross movies in France	3,110,000
Wounded soldiers carried by Red Cross ambulances in Italy	148,000
Children cared for by Red Cross in Italy	155,000

Tanks and Their Cooperation with Other Arms

By Brig. Gen. Samuel D. Rockenback, Chief of Tank Corps

INTRODUCTION

THE conditions of the World War made necessary secrecy in regard to tanks, consequently, except with the troops employing them, all information given out was misleading. This resulted naturally in general ignorance as to everything pertaining to tanks. For an intelligent consideration of the tank and its employment this ignorance must be removed.

Ludendorff's ignorance of tanks caused the death of many German soldiers and the stampede of many more. He is correct in stating that tanks should be used in masses or not at all and that the material and mechanics could not be spared from the manufacture of lorries for the production of tanks—also that the German tank was no good. But when he directed the German soldier to stand his ground and use armor-piercing bullets against tanks, bunch hand grenades and explode on tanks, jump on same and wreck them with tools, he led them to their death. German prisoners stated: "We could not stop the tanks; they pressed over us like flat-irons." The "Elephant Guns" firing an armor-piercing bullet of 53 caliber, which were made in large numbers especially for tanks, did not stop them. The German soldiers stampeded on their approach.

Ludendorff's book reads like a diary, later chapters showing that he learnt about tanks. He states, "Between Ham and Noyon a canal, which offered a good obstacle to tanks, determined the position of the line" August 26 and 27.

On September 2d, a strong assault by English tanks overran obstacles and trenches in this line (Wotan system) and paved a way for their infantry.

The ignorance of our own forces as to tanks caused them to expect the light tank to cross 12-foot trenches and do the work of the heavy tanks. No one at G. H. Q. knew the gun-power we proposed to put in the front line and in front of it. It was fourteen hundred and sixty 2.24 guns, each weighing with its tank mount 1,482 pounds; six hundred 37-mm. guns; 6,680 machine guns.

Had it not been for the American crew, the gun-power of the tank, the simple mission to infantry and pioneers —"Follow that tank"—which they could see, hear, and smell, and the German fear, the light tanks could not have done what was ignorantly expected of them, and an unjust set-back to mechanical warfare would have been given to the greatest mechanical nation in the world.

Those who were actively engaged at St. Mihiel and in the Argonne agree with the Napoleonic axiom: "In war the moral force is to the physical as three to one."

Only a few comprehended the great moral effect of tanks. On the 16th of September, 15 tanks were sent east of the Moselle, where by successive feint attacks on the nights of the 17th and 18th they were credited with diverting two German divisions from our front in the Argonne and contributed to the general confusion of the enemy as to our real point of attack.

The Commander-in-Chief would not permit the withdrawal of disabled tanks

from the Argonne to the repair shops, considering that the bad effect on our own troops would be too great.

On the 10th of October, the chief of the Tank Corps was ordered to Paris with authority to give anything in the A. E. F. for 500 tanks (we had the personnel). The situation was ideal for the use of tanks, the Boche was short of artillery and ahead on machine guns. We got 48 more tanks.

On the 16th of October the chief of the Tank Corps recommended the withdrawal of the personnel of the Tank Corps, as out of two battalions, six companies, only enough was left to form one composite company operating 24 tanks. With this nucleus of battle-trained men it was agreed to reorganize and come back within ten days with two battalions operating 150 tanks. It was decided that the moral effect of the withdrawal on our own troops would be too great, and it was not permitted to take the 24 tanks from the front of the 1st Army.

Due to the Allies' ignorance of the tank, they were greatly hindered in their movement on roads. Unless we learn, the prejudice against moving tanks on roads will be perpetuated. The chances of the tanks in our service injuring a road are no more than that of a truck.

Hilliare Belloc, the great British war correspondent, in his summary of the war, writes: "Prussia in the Field: Now superior upon the whole in tactics and superior in tactical instruments (until the advent of the tanks)."

At the Battle of the Somme, "Then first appeared the new tactical instrument, the tank, which was to have so great an effect upon the future of the war."

The first of these two points upon which I am insisting—the appearance of numerical weakness upon the side of the enemy—the effect of continued attrition was achieved by the sacrifice of the English, by the very heavy expenditure of their new armies. The second feature, the tank, was later to prove of even greater importance. For the first time a new tactical instrument had appeared, capable of dealing with the chief elements of the modern defensive, and though it had not yet appeared in sufficient numbers, nor even in a quite adequate form, there it was; a step had been taken in advance of the enemy which he never recovered. Fifteen months later was to be seen the first example of what that new tactical instrument could do at its fullest efficiency; two years later it was to become a deciding factor.

After the reduction of the Amiens salient, the end of August saw a further lighting up of the line to the north in front of Arras and of Douai. The enemy lost his last elaborate defense and fell back in fear of the tanks upon a water line before Douai. (*Land and Water*, 18th and 26th December, 1918.)

Fabian ("Notes on Anti-Tank Defense") states as follows: "The successes which the Allies have gained since 1st July, 1918, do not rest on any superior strategy on the part of Foch or on superiority in numbers, although the latter have undoubtedly contributed to it. The real reason has been the massed use of tanks. . . .

"The French-British victory on August 8 and the French victory on the 10th were undoubtedly the most successful offensive by the oldest strategic method—complete surprise, and a new method in tactics—the improved use of an improved type of tank."

HISTORY OF THE AMERICAN TANK CORPS

The subject of tanks early received attention by our G. H. Q. The Commander-in-Chief arrived in France on the 13th of June, 1917. On the 19th of July he ordered a board to investigate the progress made by our Allies and submit recommendations for own service.

The following were the important points of the findings:

a. The tank is considered a factor which is destined to become an important element in this war.

b. There are practically only two models now giving satisfactory results, the 6-ton Renault and the 27-30 ton British Mark VI (not in production and never used), which later was made up as (1) fighting tank and (2) supply tank.

c. Estimate for the machine based on an army of 20 divisions (each division, two brigades): Light tanks, 2,000; heavy tanks, 200; with 15 per cent per month for replacement.

d. Tanks must be used in quantities or not at all.

e. A Tank Department, reporting directly to the Commander-in-Chief, should be organized at once, and a single chief appointed for its direction.

A memorandum of a project for a Combat Tank Service based on a force of 20 fighting and 10 replacement divisions was sent by the Commander-in-Chief to the War Department on September 23, 1917. It provided for the following:

FRONT

Division Troops, Light Tank Companies	30
Army Headquarters, Aggregate	2,786
Army Troops, Light Tank Companies	30
Army Troops, Heavy Tank Companies	15
Army Troops, Carrier Companies	5
Army Troops, Artillery Carrier Co's	2
G. H. Q., Aggregate	75

REAR

Training and Replacement Companies	10
Repair and Salvage Companies	5
Depot Companies	1
Aggregate	14,827

There was nothing provided for a home establishment. There was not enough in the reports furnished to determine what we wanted. The following must be determined:

a. The function of tanks.

b. Types to be produced based on functions and possibility of production.

c. Means of securing designs and production.

d. Organization based on types of tanks adopted and suited to function with the existing organization of the Army.

e. Tactics suited to the special arm tanks, and for cooperation with the other arms.

The means of securing designs and tanks was settled with the Chief of Ordnance. The ordnance department was to accept the general plan for the machines the Tank Corps wanted and undertake the supply. The supply situation required a minimum number of types.

The Headquarters of the French Tank Corps at its great center in the Forest of Campeigne was visited. The French were using two types, the Schneider and the St. Chaumond. Neither were tanks. They were poor artillery carriers, each carrying a 75 and two machine guns, not designed for cross-country work, and had to be preceded by ground scouts and followed by pioneers. On reaching its firing position the Schneider halted, turned broad-

side and fired. The St. Chaumond was an improvement in having better power and carried its 75 for firing direct to the front. Production of both had been stopped. The Renault, the first land light cruiser, though in manufacture for over a year, had not been produced in usable numbers. The French wanted a heavy tank but would approve of none in production. They were quite bitter against using tanks before they were ready in large numbers. They were firm in the opinion that tanks must be used in masses and as a surprise, or not at all. In the employment tanks were to assist the infantry. The French varied from the idea of infantry accompanying artillery to *artillerie d'assaut*. They must keep up the offensive idea in the employment of tanks. The change in the French idea for the employment of tanks from that of infantry accompanying artillery to *artillerie d'assaut* is considered a proper development from experience. It is not believed that you can make, out of our hasty levies, soldiers who are Jacks of all trades and be able to do any of them well. Our experience is that it is essential to keep up the tank idea of assault and closing with the enemy. This requires merciless handling of the officer or man who does anything but direct firing at distances under 800 yards. The moment the tank goes into the artillery business it loses its idea and has got to increase its personnel for the purpose of observation and special reconnaissance and indirect firing, purely the artilleryman's business. It is believed that it is only by a tank specialist imbued with the assault idea that proper tank work can be accomplished. It is correct that the French used tanks as accompanying artillery, but it should be kept in mind that this was exceptional use. That one arm is capable under emergency of performing the functions of another does not justify the conclusions that "this seems to be a solution of the problem." It is not believed necessary for infantry accompanying artillery to double the weight of the carrier, with the armor-plate necessary for the tank. A modified form of tractor, with an elevated and projecting tread and a body with a steel wedge-shaped nose slightly retired, will enable the accompanying guns to cross all the country that tanks can. If it is thought necessary to protect the gun and carriage, it can be done by a thin, hip-shaped, light-plate cover. The armor on a tank varies from light, where there is little chance of a normal impact, to heavy, where there is a chance of a normal impact.

The French were also decided that they could not maintain the necessary *esprit*, get proper training and equipment unless they were a distinct combat arm. Tanks could not be operated with much chance of success on over 40 per cent of the western front. To permanently attach them as an organic part of each division would require more tanks than they or any nation could produce, hence all divisions were trained with tanks in the rest areas.

Army commanders with their staff, corps and division commanders, followed tanks on foot at their maneuvers and listened to critiques on them in the rain. They then discussed their employment, and the normal was agreed on.

Special transportation arrangements had to be made for bringing tanks to their positions of readiness for battle and, as our artillery has learned, the ammunition, gas and oils had to be maintained by men of the corps.

The third bureau of the War Ministry had a tank division, the head of which was acceptable to the chief of the Tank Corps. The chief of the Tank Corps commanded the Tank Corps and was on the Staff of the Commander-in-Chief and his adviser on tank matters. Tank Corps troops were G. H. Q. troops. Upon recommendation of the chief of the Tank Corps, they would be attached to armies for special situations.

Organization and tactics were subsequently modified in the light of experience had in the war and will be given later. The Renault was approved for our service and two sent over to be copied and manufactured.

A visit was made to British tank headquarters at Bermicourt, France, and to the tank brigade in readiness near the front. The British had gone from armored, or heavy, machine-gun battalions to a separate Tank Corps. Influenced by the terrain on their front they advocated only the heavy, long tank. They were equally decided that they had no tank in production that was good. There was little cooperation between the combat Tank Corps and the production department. The heavy tank could not be kept along with the infantry, due to the difficulty of transportation. They belonged to the strategic reserve, and when in a major engagement their use was decided on, they were brought up as close as possible to the front line, preceded the infantry without artillery preparation, and went direct for their objectives in waves, the first going for the enemy's third line, the second for the enemy's second line, and the third for the enemy's first line. Cambrai had demonstrated the practicability of this but also that without the infantry to follow in sufficient numbers to hold the gain the total of the result would be nothing.

With the British, the general requirements for heavy fighting tanks were agreed upon.

On the 26th of December, 1917, a conference with the Chief of Ordnance was held in Paris. It was not feasible for the United States to furnish heavy tanks in one year, all the time we had. We could not produce the engines. To get heavy tanks we had to pool production. The War Department was cabled and approved the combined project; 1,200 Liberty engines of 300-horsepower by the 1st of June, 1918, were promised. A meeting was held with the British Munition Department in London the first week in January, 1918, at which we declined to accept any type of British tank in use. The general design of the Anglo-American tank was agreed upon. This was confirmed by treaty agreement on the 20th of January, 1,200 Mark VIIIs to be produced, the British furnishing the guns, ammunition, equipment, and armor plate, and the United States the engines and running gear. An assembly plant was to be jointly erected at Chateauroux where the components were to be sent. The first 600 tanks were to go to the American Army and the remainder to the British and French as would be agreed to later. The French approved the plan, but would not sign. They subsequently, in July, 1918, demanded an equal division.

At the same time arrangements were made for training 3,000 Americans at the British centers in England. An interallied tank committee was formed and met in Paris once a month.

Having determined the *functions of tanks*, the types we wanted, with a chance of getting them and the means of securing them, the organization was revised and sent to the War Department in February, 1918. Cable request

was forwarded for the personnel to be sent to England for training. All the personnel obtainable in the A. E. F., about 600, was assembled at Bourg, on the south boundary of the Staff School territory at Langres, and the Light Tank Center started. Nine Renault tanks were obtained from the French. The few regular officers we could get were sent to the British school in England, then with the British tanks at the front, then to the French centers and the French front, and then to establish a center in the United States. All went with the order to learn all the Allies knew but keep in mind that, if we won the war, we would have to improve. From these studies our tactics was evolved. Having no machines, our 301st Battalion was equipped by the British and went into the fight with them in September, 1918, incidentally aiding our 27th and 30th Divisions.

The French sold us 150 Renaults and loaned us one of their brigades for St. Mihiel and the Argonne.

Our organization was modified by the experience gained at St. Mihiel; it was improved in the Argonne. From the 15th to the 30th of October, out of two battalions, six companies of light tanks we could operate only one. On the 30th of October the personnel of the 2d Brigade was trained and we were prepared to continue the fight with 150 light tanks.

The organization had then been tested by the severest test it could be given and was approved.

The tanks only had the opportunity with one of our divisions to get that acquaintance and training which is necessary for success. An extract from a letter of the division commander reads as follows:

It was a special privilege of the 1st Division to have elements of the Tank Corps in their most difficult operations. The division had learned to appreciate the value of tanks at Soissons, where the French tanks helped us through some very difficult places. The greatest reliance was, therefore, placed upon the tanks in the St. Mihiel advance where tanks presented the only means of destroying wire and machine-gun positions that had been developed during the four years' occupancy of the position by the enemy. The performance of the tanks during this advance was brilliant and successful, and the entire division felt the most lively gratitude for the able manner in which every mission had been performed. The same conditions existed on the 4th of October when the 1st Division made that desperate assault with greatly inadequate artillery support against the line of the Montrebeau woods. The manner in which the tanks helped them to open the way to the Exermont ravine elicited the highest praise from all. Again, when the 5th Corps was ordered to advance against the Landres-et-St. Georges position, I eagerly sought and borrowed the small number of tanks in the 1st Corps and utilized them as you have described, feeling that they were indispensable to our success. It was because of these experiences that I appealed to you for the few remaining tanks that you had, to assist our infantry in the great assault of November 1. Here again, although the number was small, I feel that the services of the tanks were of incalculable value.

From the above, it is evident that I am a firm believer in the tanks and desire to see the service fostered and developed so that when our troops again become engaged in warfare the difficulties which you have enumerated will no longer exist.

The local successes gained by a few tanks at St. Mihiel and in the Argonne must not be taken as a basis for conclusions as to their use. Every principle for their employment was violated but, as Wagner said of Santiago, "Every rule and principle of the Art of War may be violated and success gained with Ameri-

can soldiers." What was done was the best possible under the circumstances. For the future we must design and manufacture an improved tank and so organize and *train with the infantry* as to get the best results.

TANK STAFF CONTROL IN THE FIRST ARMY

The organization of the Tank Corps of the A. E. F. included a general headquarters for functioning with the General Staff, furnishing a directorate for designing machines and training, and commanding Tank Corps Organizations not attached to armies; one or more army Tank Corps headquarters for functioning with the Army Staff and the Chief of the Tank Corps for the operation of the Tank Corps units attached to the Army; Tank Centers for training and replacements, and 10 brigades.

The situation prevented organizing from the top down. The few officers of any service obtainable required two or three months training at British and French tank centers before they were of any use. The American fighting in July, and the delay in our production, stampeded some with the fear that the Tank Corps would not get tanks before the war was over. Consequently the Tank Corps was without an adequate staff and tanks when on the 18th of August the Chief of Tank Corps was ordered to Paris to get tanks and to the 1st Army for temporary duty.

The battle order for St. Mihiel was as follows:

HEADQUARTERS FIRST ARMY,
AMERICAN EXPEDITION FORCES,
FRANCE

5 *September*, 1918

ANNEX NO. 3.
FIELD ORDERS NO. 9.

PLAN OF EMPLOYMENT OF TANKS

1. Based on the general plan, detailed reconnaissance, and the troops to be available, viz.: 1 Regiment French Light Tanks; 1 Groupment and 2 Groups, French Medium Tanks; 1st American Brigade (2 Bns. Light Tanks) and Headquarters 3rd American Brigade; the following allotment of tanks is made:

(*a*) ALLOTMENT.

(1) The 505th French Regiment (3 battalions) and one groupment to the 1*st Corps*.
Liaison with the Corps to be maintained by the Chief of Staff, Tank Corps, and Headquarters 3 American Brigades. Detraining Point: BOIS VILLERS-EN-HAYE, BOIS DE LA RAPPE.

(2) The 1st American Brigade (2 Battalions) and 2 French groups to the 4th Corps. Detraining Point: ANSAUVILLE.

(*b*) HEADQUARTERS TANK CORPS TROOP AT ECROUVES.

By Command of General Pershing:

H. A. DRUM,
Chief of Staff.

Official:
S. D. Rockenback,
Brig. General, U. S. A.,
Chief of Tank Corps.

The experience at St. Mihiel indicated that in future the army order for tanks must prescribe the sectors for their operations. Hence the order for the Argonne reads as follows:

HEADQUARTERS FIRST ARMY,
AMERICAN EXPEDITIONARY FORCES,
FRANCE

17 *September*, 1918

ANNEX NO. 3.
TO BATTLE INSTRUCTIONS—OPERATIONS "Z."

PLAN FOR EMPLOYMENT OF TANK CORPS TROOPS

1. The following is the general plan for the employment of tanks:

(*a*) OPERATION. Tanks to assemble in the FORET de HESSE. On D day they will follow the infantry as soon as the way had been made passable for them, to their position of readiness in the BOIS de MONTFAUCON and near CHEPPY. Thence they will operate in the sectors MANTILLOIS, MONTFAUCON, GESNES, and BAULNY-EXERMONT. On the Hindenburg Line being made passable for them, they should be in the best possible position for exercising their proper functions and will proceed to destroy machine-gun nests, strong points and to exploit the success.

(*b*) ALLOTMENT. The 505th Regiment A. S. Light and two groups St. Chaumond to the center (V) Corps to operate in the sectors of the right and center divisions north of the line GERCOURT-OYISY-VERY. The units

assigned to the right division will wherever practicable assist the advance of the III Corps.

Detraining point DOMBASLE. Initial supply dump DOMBASLE.

The 504th Regiment (less 1 Bn.) A. S. light, and 1 group St. Chaumond to the center (V) Corps to operate in the sector of its left division north of the line CUISY-VERY. Detraining point DOMBASLE-EN-ARGONNE. Initial supply dump DOMBASLE.

The C. O. and Headquarters third American Brigade to the center (V) Corps for reconnaissance work and liaison of the French Units attached to the Corps.

The First American Brigade, Group Schneider attached, to the left (1) Corps to operate in the sector of its right division north of BAULNY.

Detraining point RECICOURT. Initial supply dump RECICOURT.

(*c*) TROOPS NECESSARY TO BE ATTACHED. On company of pioneers to the units operating with the center (V) Corps.

Two platoon Pioneers to the units operating with the left (1) Corps.

(*d*) SUPPLY. The corps to which tank troops are attached will make necessary arrangements to insure gas and oil reaching them.

(*e*) Headquarters Tank Corps at advance section Army Headquarters.

By Command of General Pershing.

H. A. DRUM,
Chief of Staff.

Official:
S. D. Rockenback,
Brigadier General, U. S. A.,
Chief of Tank Corps.

An examination of the map will show the reason for the allotment. It would be folly to assign tanks to corps or divisions the terrain of whose sectors of operation was impracticable for the employment of tanks.

THE AMERICAN TANK CORPS

The American Tank Corps is based on the following fundamental considerations which must be kept clearly in mind:

1. *The functions of tanks* are to make a path through obstacles for the infantry and protect it from destructive loss from machine guns. The tanks are the counter to the machine gun. Besides its protection it is a conserver of men, mechanically replacing men and brutes.

2. *The Design is Based on the Functions.*—The tanks must be able to cross a prepared defensive terrain, go anywhere infantry can, have an armament suited to cope with protected machine guns (a cannon and two machine guns). Give reasonable protection to its crew, armor sufficient to stop armor-piercing bullets. They must be used in such numbers that they will present many targets, and the percentage expected to be destroyed by the enemy will still leave enough to accomplish their object.

3. *Production.*—The most serious obstacle to overcome in obtaining a Tank Corps is to produce the tanks in large numbers. Neither Great Britain nor France produced one tank of a special type in less than a year, nor in usable numbers in less than eighteen months. I am not able to estimate how long it would take us, as we have not built any complete starting from the designing. Hence the types must be few. It is hoped to reduce our two types to one. The light tank can do all that the armored car can, and in addition reach the enemy whether he be in a city or on the battlefield. The light tank is easily put in a truck, and thus gains the necessary speed to be quickly put into its position of readiness for attack.

4. A project for a combat tank corps must be based on the number of fighting units it is proposed to use. The Tank Corps of the A. E. F. was based on 20 fighting divisions and 10 replacement divisions. This would give us the necessary headquarters, training centers, 10 brigades, each consisting of headquarters, one heavy battalion, 2 light battalions, and one repair and salvage company.

SUMMARY

Personnel	21,800
Heavy tanks	730
Light tanks	1,520

Guns, 6 pdr. (2.28)	1,460
Equivalent in batteries to.	365
Equivalent in regiments to.	56⅔
Guns, 37's	600
Equivalent in batteries to.	150
Machine guns	6,680
Equivalent in companies to.	556⅔

Keeping in mind that tanks are not a substitute for artillery, that they must have artillery support, the following comparison will not be misunderstood:

The field artillery has over 50 men per gun. At this rate the 6-pounder guns of the A. E. F. Tank Corps would require 73,000 men. A company of machine guns has ten men per gun; at this rate the 6,680 machine guns would require 66,800 men and the 37's would require 6,000. Total for cannon and machine guns, 145,800.

The Tank Corps was designed to handle these guns, transportation, minor repairs, supply, and training with 21,800 men.

Economy.—The salient points in tanks are economy in men per weapon, in men per yard of front, in casualties, economy in artillery preparation and personnel; in ammunition and manufacture; in transportation in labor on the battlefield, property, in tonnage and in time (see Tank Economics).

Recommended.—American Tank Corps—Personnel: No one can draw up a project for a Tank Corps till the number of fighting units, division, are decided. Tanks can take anything, but they can hold nothing without a trained infantry to support them. Better scuttle the Tank Corps and scrap its equipment if we cannot get an adequate corps and train it with the infantry. If the above is clear, the following minimum is necessary:

a. A General Headquarters functioning with and coordinated by the General Staff on tactics, organization and policy; furnishing a directorate to the supply departments, especially on design and production, and commanding the Tank Corps. Total, 17 commissioned and 60 enlisted.

b. A center for training. Maintaining the following schools:

	Days
1. Infantry school of the soldier	30
2. Mechanical: gas engines, mechanical construction of light and heavy tanks	5
3. Tank driving	4
4. Six-pounder guns	9
5. Thirty-seven mm. guns	9
6. Machine guns	9
7. Compass (so that man can operate tank closed)	4
8. Signal	6
9. Visual training (to quickly recognize and identify features of the enemy's battle area)	2
10. Pigeons	1
11. Gas	1
12. Intelligence	30

Officers of a tank company and battalion commanders require a minimum of 57 days' training; reconnaissance officers, 44 days; noncommissioned officers to take charge of a light tank, 61 days; all other officers, 57 days.

The training varies from 3 to 6 months, depending on the intelligence of the man. To inculcate habits of obedience, 6 months. Total time for training of personnel of the fighting units, 1 year.

There is no camouflage about this training; it is designed to make tank fighters. Its result in relation to vocational training is that out of some 6,000 who successfully completed the course, the Tank Corps cannot get back any on the present pay, their wage-earning capacity having been doubled. Total, 64 commissioned and 250 to 864 enlisted.

c. Two Brigades.—Each consisting of a headquarters, one heavy battalion

two light battalions, and one repair and salvage company, or four light battalions and a repair and salvage company, or two heavy battalions and one repair and salvage company. Total, two brigades, 318 commissioned and 4,176 enlisted.

d. Infantry School Detachment.—One light battalion and one heavy company. Total, 58 commissioned and 751 enlisted. Grand total for the above, 457 commissioned and 5,861 enlisted men.

With this force it is proposed to train and operate five light battalions, two heavy battalions, and one heavy company.

375 light tanks.
20 light radio tanks.
112 heavy tanks.
9 heavy radio tanks.
242 6-pounder guns (equivalent to 60½ batteries).
156—37-mm. guns equivalent to 39 batteries.
943 machine guns equivalent to 59 companies.

The gun power alone would require organized as field artillery:

	Men
For the 6-pounders	12,100
For the 37's at 10 men per gun	1,560
For the machine guns	9,450
Total	23,110

For which the tanks require 6,318.

It is to be noted that the training force remains constant and would not be increased to turn out additional battalions.

The tanks well demonstrates the ability of machines to reduce the number of men of any army and at the same time increase the killing power.

e. In addition, enough light battalions to attach one to each organized Regular and National Guard division, or one brigade to a corps.

Production Policy.—The best type of tank built at the present time is the result of war-time conditions and hence but an assemblage and far below the ideal. The policy should be to put what we have in readiness for battle and proceed with all the energy we can allot to tanks to the design and production of an improved tank.

COMBAT

The following part is from proposed Tank Corps Drill Regulations and has not had the benefit of revision by the chiefs of the other arms, which it is hoped to obtain before putting in final form.

Introduction.—The successful operation of tanks is primarily dependent upon the thorough and complete understanding of the principles of tank combat. To this knowledge must be coupled an accurate grasp of the intimate relation existing between tanks and the other arms, especially infantry.

Viewed from the standpoint of tactics the tank is purely an offensive weapon, that is, it must be employed while advancing on the enemy. Hence, where the situation demands a defensive attitude, the tank, if used, must be used in counter strokes.

The tank is primarily an aid to the advance of infantry, engaged in a vigorous offensive either in the assault of works or in open warfare. In the latter case the tanks should be held in reserve until trustworthy reconnaissance or actual experience has shown that the enemy is too strong to be evicted by infantry and artillery unaided by tanks.

To use tanks in operations where the other arms can progress unaided is an error for two reasons: First, because it is not so much the fire of the enemy as wear and tear which disable tanks. Second, because the late war has proven

that where infantry always attacks behind a barrage it loses its initiative, hence its morale and efficiency. It becomes a simple scavenger for the artillery. The practice of always attacking behind tanks produces an identical result.

The closest liaison must exist between tanks and infantry. Tanks can take anything, but they can hold nothing, hence there must be the most intimate relations and mutual understanding between them and the infantry, so that the objective, which the tanks have helped to take, the infantry will hold. Tanks, or groups of tanks, separated from their command must cooperate with the nearest infantry. At any pause in the advance tank, officers must personally interview infantry officers and learn from them what the infantry proposes to do, so that tanks may conform.

During an advance, tank crews must continually look to the rear to note the progress of their accompanying infantry.

When the strength of the resistance warrants the use of tanks they must be placed well in front of the most advanced line of infantry. In open war, infantry scouts, whose duty it is to locate machine guns and centers of resistances, should precede the tanks.

Tanks must not rush forward regardless of the rate of progress of the infantry. It is the infantry skirmish line—not the barrage—which regulates the rate of advance.

A force composed of good tanks and good infantry, working intelligently together, cannot be beaten.

For an attack tanks must be disposed in depth. During an advance the leading or assault tanks precede the infantry and are in turn, during open warfare, preceded by scouts.

The support tanks follow the infantry support. The reserve tanks follow the support tanks.

This deployment in depth is absolutely essential to maintain the continuity of an attack by insuring the continual feeding of the front line. At the same time it makes possible the destruction of machine guns and centers of resistance, overlooked by the front line; makes possible the successful resisting of counter-attacks from front or flank, or the exploiting of successes in these directions.

The point of deployment and, if possible, the assault position must be reached under cover of darkness.

Dawn is the best time to launch a tank attack, for if the enemy becomes aware that tanks are to enter a battle in a given sector, he can place isolated guns in position to stop or render too expensive the progression of the tanks.

Tanks cannot fight in the dark, hence night operations are impracticable except on favorable terrain and in strong moonlight. In any case, the attack must be in the nature of a surprise.

Tanks must have support batteries to fire at anti-tank guns. These batteries should be in the ratio of one battery for every 1,000 yards of front. Their duty is to blind with smoke shells and then destroy all anti-tank guns and observation posts reported to or observed by them.

Tanks should have special airplanes detailed to assist them, in the ratio of one airplane to 1,000 yards of front. They report on the progress of our tanks and infantry, on the movement of enemy forces, and attack anti-tank guns.

In an attack, tanks should direct their fire on the elements which are most dangerous to their infantry, except that wherever anti-tank guns are located,

all tanks within range must concentrate their fire on the gun. Otherwise the tanks will be quickly put out of action.

The limited supply of ammunition carried, and the difficulty of refilling, forces tanks to conserve their shells. Continuous fire should only be used in attacking batteries. Then tanks should use all their fire during the entire advance so as to smother the gun with bullets. Batteries are the most deadly foe to tanks, and, as a general principle, they must always be taken in flank or reverse. Only the imperative necessity of their immediate destruction will justify sending tanks directly at them. In such a maneuver tanks must confuse the aim of the hostile gunners by using a zigzag course, and, if the wind is favorable, by the use of self-produced smoke screens.

Even if their ammunition is entirely exhausted, tanks must continue to frighten the enemy by advancing as long as their infantry advances. The absence of ammunition is no excuse for a tank coming out of the battle. Since infantry, unaided by artillery, is utterly helpless against tanks, the sight of tanks advancing relentlessly has most disquieting effect on the enemy. Moreover, tanks will attract a large volume of fire which would otherwise be directed against the infantry.

The use of ground, so far as tanks are concerned, consists in avoiding all conspicuous places where they will be under direct fire of artillery at effective range for a considerable time. Light tanks can maneuver with impunity within 1,000 yards of hostile guns, firing direct so long as they keep moving. Heavy tanks are vulnerable when in action up to 3,000 yards.

Tanks should cross the sky-line at full speed, and under favorable wind conditions protected by a smoke barrage produced by their own means, or through the assistance of the artillery. In battle, tanks must remain in motion. It is the best defense against hostile artillery. Smoke is the next best defense. Where it becomes necessary for tanks to halt in order to make repairs, they must seek concealment and shelter.

Units enter battle as a result of orders from higher authorities. For tanks, whenever possible, these orders must be extremely explicit, so that the attack may be initiated with machine-like precision. Thereafter it will be impossible to foretell what will occur, hence, tank orders must contain clear information as to the end sought, both by the immediate units with which tanks are cooperating, and also with respect to the larger unit. This will enable tanks to carry out their mission under circumstances which are not foretold in their original orders. Orders must reach tank commanders in time to allow at least four hours' daylight reconnaissance before battle.

Each officer and each tank commander should provide himself with a large scale map showing his sector and the location of hostile guns and batteries and other anti-tank defense.

Reconnaissance during battle must be made at every halt by all officers and scouts. By daring in this respect, much information will be gained and mistakes avoided. For tanks to be surprised by artillery at short range is unpardonable.

Tank crews should take every opportunity, when not under direct fire, to open the shutters of their eye-slits or the bonnets of their turrets and observe the terrain. Grave responsibility rests on the tank platoon commander. He

must meet unforeseen conditions and situations with bold, aggressive, and prompt action.

Tank company commanders should be well forward in order to see and communicate with their tanks. Since directing tanks in battle is extremely difficult, the crews must be so trained and disciplined that they will be able to obtain, by themselves, the end sought.

The battalion commander must know, by personal reconnaissance, the whole sector over which he is to advance. His post during battles is with, or just ahead of, his reserve company and in rear of his radio tank.

Tanks use themselves up very fast in action, hence it is vital to conserve them for the proper emergency. A great aid to conservation is control. This is brought about through conference between Tank Corps and infantry staffs. Demands by unauthorized people for tanks, or groups of tanks, to do trivial things must be invariably refused. Where a tank unit, such as a battalion, is operating with more than one infantry division, a complete unit of the tank battalion, such as a company, must operate with each of the two divisions, that is, the line which marks the sectors for the infantry must equally mark the sectors for the tanks.

Infantry operating with tanks must fight their way forward, in all respects, as though no tanks were present. If this is entirely understood, tanks will be called on only when strong resistance is encountered; then they will be on hand and ready, when most needed, to throw their weight into the attack and push it to success. Tanks should be used in large numbers or not at all. A few tanks will destroy the independence of their infantry without being able to make substantial gains against a determined enemy.

Army and corps commanders should use their tanks in the sectors where success or failure will have a decisive effect on the outcome of the battle as a whole. They should keep their large tank units intact, to use for striking blows.

The combat of tanks requires the highest order of training, discipline, and courage on the part of tank troops. They must enter a fight with an aggressive spirit and a determination to kill. As tank crews are isolated in the midst of danger and confusion, the highest discipline and devotion to duty in each and every man is necessary to success. Each man must have a positive fighting spirit, strong enough to make him independent of the conduct of men around him. Combined with this spirit, each man must have complete discipline. With these fundamentals, tanks will enter battle confident of their ability to do more than is required of them.

(*To be continued*)

The Psychology of Drill

By Colonel Andrew J. Dougherty, General Staff

PARDON the conceit of a man who has never been to France and yet dares to write on training. However, the regiment on which these training principles were tried out did go to France as a part of the 90th (National Army) Division, arriving in July, 1918, and going into action a month later. It was in the St. Mihiel offensive and through the Meuse-Argonne fighting. The regiment, on November 11, 1918, closed seventy-five days of service, during all of which time, with the exception of seven days, it was under fire, except for forty-eight hours, being in the front line. It advanced farther and was in more engagements than any other regiment of the division. It never gave up an inch of ground and never failed to reach its objective on time. A few comments on the training of this regiment may be of interest.

The Force of Habit.—When tired and cold and hungry, perhaps in addition a little sick or slightly wounded, with the din of bursting shells in his ears, his nerves shaken by the wounds and death around him, the average man can be depended upon to do but little beyond what has become habitual. To form basic and essential habits is, or should be, the aim of all training. It is not sufficient that he know how to do the thing; he must do it, and do it right, *without thinking.*

This explains the endless repetition with minute exactness which is found in all military training worth while, and which is so irksome to the soldier unless his commander has the knowledge and wisdom to explain to his men the underlying reasons therefor. The American soldier is not a machine; he is a thinking man. Take the trouble to explain to him the reasons for teaching anything and for teaching it by the particular method used, and you will be richly rewarded.

Correct Execution.—The soldier learns to do a thing right by doing it over and over right. Note that, please! He learns to do it by doing it *right.* A movement may be executed slowly, but *never* incorrectly. Better dismiss your men and send them to bed than to put in the time doing any movement incorrectly. You are only teaching them wrong habits and not correct ones. Begin with the "Position of the Soldier" and insist on absolute exactness at drill. Battles are won by troops executing orders *correctly.* They will never learn the habit of correct execution by repeating movements incorrectly. My division commander spent many days *personally inspecting every soldier in the division.* He insisted that every man take the *correct* position of the soldier. That inspection was worth much to us. We went back to the regiment and began all over. A thousand times we told our drill instructors that absolute exactness must come before speed. Our men learned to stand correctly, then they learned to face correctly, and to march correctly; and when the time came they learned to *shoot correctly.* We did not cover so much of the Drill Regulations in one day, but we did the movements correctly. We spent a week learning how to take the "Position of the

Soldier," and the men learned much more in that week—*they began to learn to do things correctly.*

Speed—Promptness.—Many a soldier has lost his life because the enemy was just a fraction of a second too quick for him. Many a battle has been lost because the enemy got there just a few minutes sooner with the most men. The habits of speed and promptness are worth everything to a command. They are formed only by doing *everything* with snap and promptness. Never permit either drill instructor or soldier to do a thing without snap (except where repeating the thing slowly in order to do it correctly). A soldier's every move should finally be with snap, so that when he is facing the enemy he will have that fraction of a second the "jump" over his opponent which means life and victory. When we saw a soldier, tired from many hours of drill, beginning to slow up, we never failed to stop to remind him that the fast ones had a chance in battle, but that the slow ones were almost sure to die. The reminder never failed to produce the desired effect. No matter how tired, the soldier must form the *habit* of doing things with snap. When he comes to "attention," have him do it with a snap. When he falls out have him do it with a snap. Habitually fall in at the double time. This latter is valuable not only in forming the habit of speed, but also in inculcating the habit of promptness. Nothing is more vital in war than promptness. One must be able to "bank" on the command being at the designated place *on time*, not five minutes early or a few minutes late. Promptness, contrary to the belief of some, is a matter of *habit* rather than of knowledge. We had many drill periods in the day, interspersed with short rest periods. Every officer or noncommissioned officer in charge of a separate body of troops was held strictly responsible that the men fell out within thirty seconds of the appointed rest time. They were all trained to equal promptness in falling in, and all assemblies were *at the run*. This extended to the assembly from barracks. Two minutes before time for drill each first sergeant was responsible that a whistle be blown. The company was compelled to assemble and call the roll and be moving off to the drill ground during these two minutes. No men were allowed to gather at the place of assembly before the blowing of the whistle. Two minutes before assembly all were in their barracks; then the whistles blew and pandemonium broke loose. Two minutes later all were swinging off to the drill grounds. It was a beautiful sight. Note that this regiment *never* failed to reach its objective *on time. Getting there on time had become habitual.*

Good Watches—Synchronization of Timepieces.—Exactness in time presupposes accurate timepieces which are regularly synchronized. This is especially essential in modern war. Where a difference of a minute between the infantrymen's watch and that of the artilleryman or machine gunner may mean that your men walk into your own barrage or reach the enemy's lines too far behind its protection, it is absolutely essential that watches be of a quality which can be depended upon to keep accurate time, and that they be synchronized. The first is a matter of orders. Compel your officers to own watches with at least seventeen jewels and which will keep accurate time. A railroad man, who is responsible for the safety of his passengers, is compelled by his employers to have an accurate

timepiece. The lives of the men in a company are even more dependent on the accuracy of the officers' watches each time they "go over the top." We synchronized all watches twice a day. A frequent check on watches was made, and all were compelled to keep within thirty seconds of the official time. No drill calls were blown. All assemblies for drill were *by the watch*. This regiment, in battle, learned to "lay up against its friendly barrage." It had formed the *habit* of exactness in keeping its appointments. Officers all had the same time because they had formed the habit of synchronizing their watches and hence did not forget to do so when forgetting would have been fatal. This is one of the reasons they never failed to go "over the top" together and to reach the objective on time. In the regimental history we read: "The conditions during the twenty-four hours preceding the jumping-off hour at St. Mihiel were serious and difficult. It was raining and the night was very dark. The regiment had just arrived in the position and made a complicated relief. But all conditions were overcome and the regiment went 'over the top' at the time set." *It had formed the habit of promptness, based on accurate time-pieces and the habit of synchronizing them.*

Obedience to Orders.—One of the most difficult things to insure is that your officers and men read and understand the orders given them. I think modern fiction has led most of us to form the habit of skipping the uninteresting parts until we have formed the habit of reading carelessly. It is very hard to correct this habit even when we much desire to read closely. For this, or other reasons, it is next to impossible to get the average man to read and understand an order. Hardly less difficult is it to secure implicit obedience to an order even when it is read and understood.

We set about forming the habit of reading, understanding and *obeying* orders. Long and detailed programs of instruction were carefully prepared and placed in the hands of each officer and noncommissioned officer prescribing just what should be covered at each period of the day, being careful to leave a part of each period open for review or to be employed at the will of the instructor, thus insuring against destruction of initiative. A close watch was kept on all, and each was compelled to follow the program absolutely. If any drill instructor was found doing work which was not prescribed or at a time other than that prescribed, his attention was immediately directed to the fact that he was not obeying orders. Complaint was made that this was a useless strain: *But they learned to read and understand an order and obey it.* They formed the habit.

The Salute.—Another of the important aids in inculcating the habit of obedience is the military salute. The civilian instinctively shies at the salute. Many officers explain it as an act of courtesy. Beautiful, but rot! Nothing so burdensome, both to the enlisted man and to the officer, would have survived through the centuries as a military custom unless founded on a more vital necessity than courtesy. It has survived because it teaches obedience. It means "I will obey you," whether made by the soldier to his captain or by the colonel to his general; and the snap and precision with which it is executed is an exact measure of the obedience which will be given by the officer or enlisted man who makes the salute.

We explained to our officers and our recruits that good saluting meant prompt obedience and that obedience is necessary to win battles. We taught them to think "I will obey you" every time they saluted, and that the return of the salute by the superior was a pledge that he would strive to the uttermost to be worthy to command. Officers and men got into the habit of thinking these things. The division commander himself insisted on special attention being given to saluting, and personally taught that the head should be thrown well erect and the eye of the person saluting should seek that of the one saluted; that the salute was from one free man to another and not the "kowtow" made by the bell-boy when he receives a tip. The men of the division were from Texas and Oklahoma at the start. No men on earth are more free from false standards. They were free, keen-eyed, unfettered Sons of America, who acknowledged no superior. They appreciated, however, the reasons given, and I have never, in all my service, seen more punctilious saluting than in that division. Later the 90th Division salute became famous throughout the entire A. E. F., and the discipline which the salute aided to implant made the division invincible in battle.

Time for Formation of Habits.—Taken together, the habits of correct execution, snap, promptness and obedience noted above help to spell discipline. After three years of war, Colonel Applin of the British General Staff, lecturing in the United States, said that a recruit sent to France could be lacking, if necessary, in knowledge of drill, in knowledge of tactics, even in knowledge of arms, and might—with added loss of life, it is true—but still he might be victorious: but that no army could be victorious, or think of victory, unless its men were disciplined, and well disciplined.

The length of time necessary for the formation of these habits has a direct and fundamental bearing on the length of time it would be desirable to keep men in the military service should Congress adopt any plan for universal military training.

Our experience was that these habits could not be formed under five or six months. Knowledge can be imparted in much less time; a recruit rapidly learns to do a thing, but endless repetition is required in order to make that act habitual.

These habits are the foundation stones, not only of victory in war, but of success to the individual in civil life. No young man can go very far without them; to take our youth and keep them under training long enough to inculcate these habits would be to increase our national assets manyfold. They are worth more to any man than a college education. Men succeed without a college education, but no man succeeds without these habits.

America's Effort—A Tribute

By Lieutenant Colonel Repington, British Army

"AMERICA'S Effort" is the title of an article by the distinguished military critic, Lieutenant Colonel Repington, of the British Army, who was on duty with the American Expeditionary Forces during the final period of their active service in France.

Colonel Repington's opportunities and facilities for observing the operations of the First Army were most exceptional. His standing and reputation as a military critic are of the very highest order. His views may be taken as authoritative and may be said to reflect those of the British service in general.

After reciting the achievements of the American Army during the days of preparation for the conflict, Colonel Repington says:

It was the settled policy of the American Government and of General Pershing to build up as rapidly as possible a great American army in the east of France, but meanwhile to help others wherever help was needed. At Cantigny the Americans conducted a first considerable attack on their own account in the vital sector of Montdidier and were completely successful. They helped to arrest the German rush from the Aisne to the Marne, fought fierce and bitter actions near Chateau Thierry, and took distinguished part in Foch's great offensive, led by Mangin and Degoutte on the Soissons-Chateau Thierry front. To all soldiers capable of understanding the true quality of troops, the American divisions had taken their degree in war and had passed with honors. Would the American Command and Staff prove equal to the greater exigencies of conducting a grand attack with a purely American army. Some scoffers doubted, so I went to the east of France to judge for myself.

Speaking of the St. Mihiel operation, Colonel Repington states:

I was allowed to study the procedure of the directing Staff and to watch the operations of the troops. The battle was a complete American victory, all objectives were rapidly attained, and some 20,000 prisoners and 200 guns captured. There was a bit of a block on some of the narrow roads in rear of the troops, and a few other minor observations might have been made, such as upon the hearty manner in which the troops finished two days' rations at their first day's lunch and threw away their "slickers" when it stopped raining. But, broadly, I found nothing to criticise, and I thought that the whole affair was conducted by General Pershing, his Staff, and his troops according to the best and latest practices of the art of war.

Passing on to the great American battle of the war, the Meuse-Argonne, Colonel Repington continues his observations:

It has always been my opinion since 1914 that, viewing the position in which the belligerent armies stood in France, an advance down the Meuse by the Allies was the right and decisive strategy when our forces were strong enough to undertake it as well as to guard themselves from the side of Metz. It was the matador's thrust in the bull-fight. The Meuse-Argonne offensive, prolonged westwards by the French armies, responded to this idea, and when I learnt that the leading rôle in it was assigned to the Americans I was very well pleased, because I trusted them.

Few people know that this operation was preceded by one of the most interesting and difficult staff operations of the war, namely, the transfer within fourteen days of the bulk of the 1st American Army from the Metz front to that of the Meuse-Argonne, and its replacement by the 2nd American Army. No less than ten divisions began the Meuse-Argonne attack on September 26, namely, the 4th, 26th, 28th, 33rd, 35th, 37th, 77th, 79th, 80th, and 91st, while there stood in reserve, all eventually to be thrown into the fight, the 1st, 2nd, 3rd, 5th, 29th, 32nd, 82nd, and 92nd Divisions. Further, there were placed at the disposal of the 1st Army the 42nd, 78th, 89th, and 90th Divisions. A comparison of these divisional units with those which fought at St. Mihiel shows that ten divisions were withdrawn from the Metz front and aligned for the new operation. It was a fine piece of staff work, and no other Staff could have done it better.

The initial attack by the ten leading American divisions on September 26 was most successful. It ran over the enemy and gained 10 miles in depth in two days. During the month of October the Americans delivered no concerted and general attack, but were continuously engaged against a total of some 33 German divisions in some of the fiercest and most bitter fighting of the whole war. It was a narrow front, strongly held. The Germans could not afford to give ground here and fought like demons. The Argonne, with its deep gullies and tangled thickets, had earlier in the war seen some of the most sanguinary fighting of the campaign, and it was the same ground and the same kind of fighting that the young American Army had to confront. They found themselves up against a proposition calculated to appal the stoutest hearts. They fought silently, but grimly, doggedly, and fiercely. The difficulty of supply was successfully overcome despite the poverty of communications. The sight of fresh American divisions continually thrown into the fight, at a time when the British armies were hammering him mercilessly in the north, broke Ludendorff's nerve and filled the enemy's mind with foreboding of inevitable disaster.

On October 25 the American line extended east and west a little north of Grand Pré, and by the 31st Pershing was ready to launch his last great general attack. Preceded by a carefully prepared artillery bombardment, this attack was delivered on November 1. It was completely successful and resulted in an advance of 40 kilometers in seven days. Under most adverse conditions of ground, season, and incomplete services, General Pershing had fulfilled his mission, and had not the armistice been signed on November 11 the 2nd American Army would that very day have been launched in the Briey direction and would infallibly have succeeded.

In conclusion Colonel Repington pays tribute to General Pershing and his troops in a few well-chosen words:

To my mind there is nothing finer in the war than the splendid good-comradeship which General Pershing displayed throughout, and nothing more striking than the determined way in which he pursued the original American plan of making American arms both respected and feared. The program of arrivals, speeded up and varied in response to the appeal of the Allies, involved him in appalling difficulties, from which the American armies suffered to the last. His generous answer to cries for help in other sectors left him for long almost, if not quite, without an army. He played the game like a man by his friends, but all the time, with a singleness of purpose and a strength of character which history will applaud, he kept his eyes fixed on the great strategical objective which he ultimately attained, and silenced his petty and paltry detractors in attaining it. To his firm and steadfast spirit we owe much. To his Staff, cool and cheerful amidst the most disturbing events, impervious to panic, rapid in decision, and quick to act, the allied world owes a tribute. To his troops, what can we say. They

were crusaders. They came to beat the Germans, and they beat them soundly. They worthily maintained the traditions of their race. They fought and won for an idea.

To all American fighters and workers, in the States and at the front, of all classes and all ranks, our thanks, our heartfelt thanks, are due. Their association with our armies will leave with us memories never to be forgotten —links the closest which join man to man, those of labors and dangers shared in common for a just and noble cause.

These are lines from the pen of one who came, who saw, and who appreciated what was done. We point to them with pride. When the opportunity offers they should be placed before those critics who, from time to time, point the finger of scorn at the Army and belittle its achievements.

There were some men or group of men who were responsible for these things. They do not come about of themselves. You have only to consult the roster of the officers of the Army who guided the destinies of the armies, corps and divisions of the A. E. F. to place the credit where it belongs.

Necessity for Infantry School

We do not need several schools for infantry as we were obliged to have in France, but we unquestionably should have one big school with a practice terrain of say 12 to 15 miles square so that ranges may be those of actual warfare, demonstrations may be carried out with service charges, and problems may be worked out for different units in different parts of the reservation. The terrain should be sufficiently varied to provide features likely to be found on the battlefield. In order to insure best results and make the best use of time allowed, the school should be located in a climate which permits field work twelve months of the year.—H. LIGGETT.

Increasing the Prestige of Noncommissioned Officers

By Colonel Henry A. Finch, Corps of Engineers

ACTING on recommendations made by General Pershing, great stress was laid by the Chief, Operations Division, during the training in 1918, upon increasing the prestige and developing the initiative of our noncommissioned officers. This is a most important step, and at the same time it is a difficult one to take in the American Army.

Various expedients have been tried, most of which were found to be good so far as they went. Clubs for the sergeants and corporals, either separately or combined, are excellent features, as are also separate sleeping quarters for the sergeants, arrangements for serving the sergeants their meals in a separate dining-room and of allowing them to leave their mess equipment to be washed by the kitchen force. Weekly meetings of the noncommissioned officers with the company and regimental commanders have a marked beneficial effect provided that at the outset the right spirit is established. It has also been found to be an excellent practice to have the adjutant call meetings of the sergeants-major and the first sergeants, to have the supply officer preside over meetings of the supply and mess-sergeants, and the veterinary to assemble the stable sergeants. All of these methods, as well as the extension of special privileges, tend to promote the spread of information throughout a command, lessen the likelihood of delays and misunderstandings, and serve to increase the noncommissioned officer's respect for his position. These expedients are all good, but before the problem is fully solved it is believed that we must go further.

It is true that "familiarity breeds contempt," or at least a certain loss of respect, while, on the other hand, too great a gap between the senior and the junior means a vital lack of sympathy. The problem therefore resolves itself into finding the correct status for the noncommissioned officers which will place them neither too high nor too low for the proper performance of their duties. Many officers believe that the proper place for the noncommissioned personnel is one much closer to that of the officers than that ordinarily observed in an American army regiment. They believe that one of the weaknesses of our military system is that the officers attempt to do too much themselves and fail to place enough responsibility upon the noncommissioned officer, who is accorded about the same degree of consideration as that extended toward a private in the ranks.

The writer believes that this attitude can be partly accounted for by the fact that, living with the men as he does, the noncommissioned officer, especially if he has served as a private in his organization, is likely to be so intimate with a number of his personal friends in the company that his influence with the men is lessened and he therefore is not so likely to receive the full confidence of his officers.

The remedy for this situation is believed to lie in the method of making the promotion to a sergeantcy contingent upon a satisfactory showing in a regimental "training school" for sergeants, and, further, following the rule that a man is not to be promoted to a sergeantcy in the same company in which he served as a corporal. Whatever objection there may be to this scheme for promotion there can be no question as to the great benefit to be derived from a properly conducted regimental school for candidates for promotion to noncommissioned grades. In the *Army and Navy Journal* of September 13, 1919, mention is made of such a school recently started in the 25th Infantry. The *Journal*, in commenting on the regimental order establishing the school, states:

This order is one of the best we have seen promulgated to promote a higher standing of efficiency among the noncommissioned officers, the backbone of the regiment. The qualifications prescribed for candidates for corporal are keenness and alertness, probable ability to handle and control men, character and reliability, general intelligence and education. No candidate can be nominated who has had less than one year's service or who will have less than six months to serve at the expiration of the school course. The length of the course is three months; grading will be on practical work and recitations, the subjects with their weights being prescribed in the regimental order. These subjects take in about every essential that capable noncommissioned officers should possess.

The advantages of such a school are obvious. The writer conducted a school of this character during the summer of 1918, and he can testify that the increase in the prestige of the noncommissioned candidates was well worth the work involved. In order to provide for a still further increase of prestige the rule was enforced, in the case of sergeantcies, of promoting the candidate into a new company.

The disadvantages of this plan are these:

a. The captain of a company naturally dislikes to lose the services of a good man that he has developed from the grade of private.

b. The candidates for promotion sometimes prefer to remain with the company where they have formed their friendships.

c. The building up of a company *esprit* is perhaps made more difficult.

The advantages to offset these handicaps are these:

a. The new sergeant joins the company "on his own." He reports for duty with the prestige of having completed the regimental course for prospective sergeants. He has not so many "pals" among the privates and corporals as he had in his old company, and the captain more often than not will find that his new sergeant is doing better work than he could have expected of his best corporal promoted to a sergeantcy in his own company, where he is sure to be "ridden" by his friends.

b. Naturally the new sergeant misses the intimate association with his friends, but there is where the good comes in; he is thrown on his own resources with the other noncoms watching him, and if he *is* a "live" one, he thereby develops more self-confidence and "pep" than he would ever have had the opportunity of acquiring in his former company. The point is that he works with comparative strangers and therefore he has neither their feelings nor his own to consider.

c. Officers who have been shifted

from regiment to regiment know what a remarkably short time is required for them to forget their disappointment over their transfer and to begin "pulling" for their new organization. This has been found to work out in the transfer of the newly made sergeants. Within a few weeks they begin "swearing by" their new company. Of course too many transfers would be too heavy a handicap for the man to overcome, but the single transfer upon the occasion of his being made sergeant has a good effect.

This good effect is, of course, increased as the standard of excellence in the regimental "training school" is raised. The writer followed the method of calling a meeting of the company commanders, explaining the plan, and inviting their cooperation. Each captain was then called upon to select five corporals from his company who were, in his opinion, the best sergeant material. The list was restricted to duty sergeants, leaving the selection of the mess, supply, and stable sergeants to the captain himself. With the group of selected corporals work was at once begun upon a course of training that lasted several hours a day, and which during that time demanded of the candidates just about what was demanded of the candidates at the officers' training camps. The special training lasted several weeks and was handled directly by the regimental commander and his adjutant. The candidates were graded, and at the end of the course a list of "Class Standing" was prepared which remained in regimental headquarters. On this list the men who had proven unsatisfactory were placed at the bottom. The candidates were then returned to their companies for full duty, and as vacancies developed they were promoted to sergeantcies, beginning with the top of the list, but following the rule that a man should not be assigned to his former company. As the promotions took place and the unsatisfactory men approached the top of the list a new class was started in which could be entered fresh candidates, including, if the captains so desired, the men of unsatisfactory standing in the original class. The plan worked very successfully, thanks to the good spirit prevailing between regimental and company headquarters. It was admittedly an experiment, but, judging from its results, it was an experiment well worth following. The company commanders who at first were very dubious voluntarily stated that the new sergeants took hold of their work in a most satisfactory manner—without "favor or affection."

This method of promotion is of course rather revolutionary, but with close cooperation prevailing between the regimental and company headquarters the result will be found to be excellent. The system of promotion herein recommended is based on the principle that a man cannot develop his powers of leadership to the fullest extent when he has the opportunity of exercising them upon only one group of men, which group includes many of his most intimate friends, over whom he is supposed to exercise military control. This would go hard even with officers, and, as a consequence, it is a well-established rule, where a former noncom has received a commission, to assign him to duty with a company in which he did not see service as an enlisted man. The more closely the treatment accorded the sergeants approaches that given to officers, the greater prestige will these men have and the better work will they do.

The making and breaking of a sergeant, in the writer's opinion, should be made a more serious matter than is the case in some regiments. If an incompetent man happens to be turned over as a sergeant to a commanding officer, the latter, of course, should lose no time in reducing him or causing him to resign, but unfortunately this power has been abused in some cases to such an extent that the noncommissioned officers of the afflicted companies have been known to refer to their chevrons as having been put on with hooks and eyes to facilitate their quick removal.

In making the experiment of promoting the new sergeant into a comparatively strange unit the writer was careful to remind the candidates that in being thus shifted to a new organization they were being given the same treatment accorded to officers, and that only by dealing with different groups of men under different conditions could real self-confidence be developed and advancement secured. At the same time it was pointed out that, while in the American Army there must be no breach between the senior and his subordinates and a genuine spirit of mutual respect and friendship should be maintained, there was a difference between this feeling and the rough and tumble intimacy and familiarity that prevails between men who have served together as privates in the ranks.

No Danger of Militarism in the United States

William Howard Taft, former President of the United States, says:

> There is no one as much in favor of peace as I am, but I am not in favor of that foolish sense of security which has no real foundation.
>
> I feel very strongly upon the question of national preparedness within reasonable limits. There is no danger of militarism here. It would be very difficult in this country with the idea of the people and the conditions that exist to have militarism in excessive form.
>
> It is extremely foolish to assume, as some do, that foreign nations will not take advantage of our state of unpreparedness if we make that condition too apparent.

Where the Soldiers Came From

THE number of men who served in the armed forces of the nation during the war was 4,800,000, of whom nearly 4,000,000 served in the Army.

The tabulation and diagram below shows the number of soldiers (not including officers) furnished by each State of the Union. The bars are proportionate in length to the total number of men furnished, whether by volunteering in the Regular Army, coming in through the National Guard, or being inducted by the draft.

Out of every 100 men 13 were Regulars, 10 were National Guardsmen, and 77 were of the National Army or would have been if the services had not been consolidated and the distinctions wiped out on August 7, 1918.

The Beast of Martinsart

By Lieutenant Colonel Jennings C. Wise, National Army

WE—the Americans—first visited Aveuly in August, 1918. I shall never forget that night we took over from the British. At length, with infinite toil, the forward posts in the wood were relieved with the aid of the British scouts and our own parties, who had been sent up several days in advance to acquaint themselves with the sector.

As we sat together in the P. C. waiting for a report of the relief, the British colonel from whom I was taking over command narrated many weird stories of the happenings in Aveuly. I could not help feeling at the time that he was trying to scare me—"put the wind up," as the British say.

"Relief complete, Sir!" shouted the British adjutant, as he stumbled down into the dark dugout in which my P. C. was established.

"Right-O!" replied the colonel, as he arose and began to buckle on his equipment. "Remember now, Major," he added, "no chances on Aveuly. It's a nasty bit of a place and you can't be too windy about it to be safe. . . . There's young Collingsby—likely chap he was—Mons retreat, Ypres, the Somme, military medal, a sweet girl waiting for him at home, and all that. Last week he disappeared up there and there's not a trace of him."

So saying he touched his uplifted glass to mine, and, after a final "Cheery-O," departed through the night.

Thirty minutes later they brought him back to my P. C. with a bullet through his thigh. To save an arduous ramble through the winding trenches leading to the rear, he had ventured overland. Very cheerful while his wound was being dressed, he smoked and chatted as if the whole thing were a huge joke and make great fun of his own stupidity, as he styled it.

Personally I thought the whole incident very serious and agreed with my jovial guest that his precept had been better than his example.

"That's the way with us British," he said. We do these asinine things ourselves because we're fed up with the whole business. But really, Major, we do want to save you chaps from messing the thing up like we have done. We simply can't help it. You can."

The colonel's attitude of mind was typical of the British everywhere. They were willing to go to any amount of trouble to help us and to advise us when their advice was sought. They counselled us wisely and seemed to delight in self-depreciation and in underestimating their own contribution to the war in general. In speech they were the severest critics of themselves, and withal the most kindly, unselfish, modest instructors imaginable. A thousand times they told us that it was up to us to win the war. Our one criticism of them was that they would not do what they preached to us.

On all the wide extent of the British front this sector of Aveuly woods in Artois between Arras and Albert was perhaps, next to Ypres, the most ill-famed. Projecting forward like a salient from the main line between the two destroyed villages of Mesnil and Martinsart, and covering the summit of a

round-topped hill, the woods extended down to the gloomy swamps of the Ancre. Beyond the Ancre—a narrow stream that converted the bottom lands along both its banks into impassable fens—rose the forbidding pock-marked wall of Thiepval Ridge, which had been long held by the enemy. On the northern edge of the woods stood the ruins of the ancient chateau of Mesnil, which for generations had been tenanted by the Rothschilds. For the strong cellars of the old pile and for the screen of the thicket itself the British and the Germans had ceaselessly contended.

Aveuly woods—an irregular patch of forest nowhere more than a thousand yards through—like the fenland below it along the river, was a region of the veriest gloom, a jungle of sorrow. Almost impassable by reason of the density of its underbrush, great trees shaded its recesses and gave to the place the most somber aspect both by day and night. Within it the sunlight never dispelled the shadows.

In Aveuly the ground in every glade and clearing was covered with dark rugs of moss and ferns or a heavy carpeting of decaying leaves. The fresh earth of the newest pits and trenches soon turned green and slimy in its impenetrable shade. At dusk and at dawn the white mists of the Ancre crept up along the hillsides in its front and spread through the place as if, through some strange affinity between the wood and the bogs below, they sought a malarial union.

So tangled had the woods become by nature and so interwoven with the wire of its countless human tenants that only small parties might work their way through its meshes. Between the hostile patrols that glided noiselessly about its shades and fell upon each other, a never-ending strife continued. Aveuly was the elysium of snipers—indeed, it bred them.

The opposing lines had moved back and forth within the wood until no system, no rhyme or reason existed for the maze of shallow trenches which everywhere seamed the ground. So confused had these become, so mingled, that only a scout familiar by long presence in the sector was a safe guide. Even by day it was necessary for the outposts in the wood on both sides to mark their routes forward from the main posts along the northern and southern edges with the white tape of the sappers. Woe to him who ventured into the jungle of Aveuly without a guide, a compass and a ready weapon!

Strange tales of Aveuly were told in the trenches and dugouts and in the back areas all along the front. Mystery, like the heavy mists of the Ancre, hovered over the place and seemed to be as much a part of it as the poisonous vapors of gas shell with which it was drenched whenever one side or the other succeeded in wholly occupying it. Finally the attempt to hold it in strength had been abandoned by both sides, and only small outlying parties made bold to inhabit it.

One was never sure that a relief would reach the outposts, or that, when reached, the forward posts would be found in friendly hands. More than once the enemy had been known to rush them and lie in wait for the next relief. Constant patrolling and visits by officers were necessary to prevent the enemy from taking these alarm posts, and, having silenced them, from suddenly bringing forward across the Ancre a large force of men to seize the wood and penetrate into the main position.

So fully did this region of haunting mystery seem to measure up to all that

I had heard of its lurking dangers and evil nature that I recall my first visit with a shudder.

In the pale moonlight the very shadows of the place seemed to be alive. One could conjure up in his mind the most fantastic images of whole lines of living men stealing through its shadowy recesses. Time and again—indeed, almost every night—the outposts fired upon these spectral foes, never knowing whether they had seen the real enemy or an imaginary one. Blame them as we did for the repeated false alarms of these "ghost fights," I knew by personal experience of the outpost line in Aveuly the limitations upon the nerves of men. Even the strongest might be excused their hallucinations in that place.

One day while stealing along, through a shallow communication trench in the wood, the runner scout before me suddenly dropped to his knee and fired. Turning a crook in the lane he had come face to face with a skulking Hun. Another time I made bold to peer over the "edge" while at one of the outposts and looked squarely into the face of a ruddy German not 30 yards away.

No, Aveuly was not a pleasant place.

Daily the ceaseless toll of losses continued—losses which oppressed one's spirits because they seemed so utterly useless. The story was always the same. Either a relief had encountered a hostile patrol in the wood or a sniper had hit his mark—more often the latter. As in the case of the British whom we had relieved in the Sector, there were instances of inexplicable disappearances on the part of men. Often enough to make the occurrence uncanny, runners who were compelled to move about the forward areas simply vanished—were seen at some apparently safe point and never seen again. Each such case we sifted thoroughly, but investigation only tended to intensify the element of mystery. Repeated cases occurred of officers and men being struck or shot at in positions upon which it seemed certain no hostile eye could fall.

Every precaution was urged to guard against sniper casualties. Officers and men were forbidden to move about alone and unarmed, and were admonished to move only through the communication trenches, but this regulation was next to impossible to enforce. Men would take chances. Again and again they paid the price.

The sniper scare was getting on our nerves. There seemed to be no way that one could avoid the danger, however prudent he might be. Places there were where one must needs leave a trench. "Zip!" A spat of dust beside one's head—that was a common experience, and it seemed to be confined to no part of the line nor to any special period of the day or night.

At the end of a week of two things only were we sure—there were Hun snipers constantly at work, and they were not confined to the region of the wood itself. Those conclusions alone gave us a clue.

The Germans had repeatedly occupied the lines we were then holding. There were innumerable booby traps in our trenches still marked, by the Royal Engineers, "Danger." Here an inviting pile of tobacco tins in a niche, there a musket resting against a fire step, or a helmet, attached to wires connected with buried explosives, tempted the unwary. The enemy, but recently driven out of our lines, knew every tree and every dugout in the sector better than we did ourselves.

A systematic but fruitless search of

all the abandoned shelters and other conceivable cover within the forward areas behind the wood was conducted by day. Even the rearward portion of the wood itself and the destroyed villages of Mesnil and Martinsart on its flanks were scoured by search parties which formed in line and combed the entire area. But still the work of the wily snipers continued.

One moonlight night my adjutant was returning to the battalion P. C. from the support line in rear with his two runners. As they filed along the C. T. leading forward past Martinsart to the rear edge of the wood, they saw a soldier on trench patrol spring over the edge of the trench and strike across the open toward the forward lines. Suddenly the man pitched forward to the earth and the muffled report of a musket came to them through the silent night.

Convinced that the man had been fired upon from Martinsart, which lay behind our lines, the lieutenant posted his runners as lookouts and hastened through the trenches to me.

But a few minutes sufficed to form a large patrol of the headquarters detachment and to explain in detail to the men the nature of their mission. The hunt appealed to their sporting senses and bade fair to prove interesting. Eagerly they set out along the network of trenches to surround the village and gradually close in upon its center. Every possible place that might conceal a sniper was to be carefully searched.

For hours we beat about the ruins of Martinsart. It was an exciting but scary business out there in the moonlight among the shadows of those tumbled walls and great riven, lifeless trees that pointed skyward like the stiffened fingers of a corpse. The whole place—its damp cellars and roofless houses—reeked with the odor of charred life as if a tongue of hell-fire had lapped it.

One by one the many searchers assembled at the designated point—the little cemetery by the fallen church—each one confirming by his report the obvious futility of his search. No, there could be no sniper concealed in Martinsart!

In the party there was a ghoulish looking Italian fellow, Luchesi by name, who more than any other had seemed to delight in the odd quest. His wolfish eyes gleamed with the light that I had only seen before in the eyes of a hungry hound upon a hot scent. Loath to abandon the chase, he peered about him furtively, and then, as if whiffing for a better scent of his quarry, began to poke with his bayonet among the shadows of the crumbled tombstones.

Rising from my seat on a large rectangular tomb, I made as if to dismiss the party and return to my P. C. for the night. The Italian slipped to my side and with a great effort slid the huge slab, upon which I had been seated, a few inches from its base. In an instant others took the hint and there, as the broad stone fell to the ground, we beheld entombed a human form.

As if transfixed by the horrifying sight not a man spoke. Then, with the bound of a leopard, Luchesi was upon the German with both hands clenched about his throat. A corporal in no hurry to interfere stepped forward and inquired, "What shall we do with him, Sir?"

For a time I stood utterly powerless to utter a single command, while the enraged Italian gripped the throat of the helpless captive. Some incoherent protest I did mutter, but the thoughts of those dreadful days in Aveuly raced through my unsettled brain and seemed

to choke down the instinct of protection within me.

However much the spirit of revenge may have seized upon me at first, I knew that after all the sniper was entitled to the honors of war, and that the deeds which to us appeared so despicable were in fact but those of a fearless adversary.

The spy, the lurking sniper who lies in wait and slays his enemy, and a hundred other agents of war, are as admirable on the one side as they are loathsome on the other. It depends wholly upon the point of new. This man before me was a prisoner of war. As such it was clearly my duty to protect him. But the features of those missing men flashed through my mind and momentarily deterred me with accusing eyes from the performance of that duty.

"Loose him!" I cried at last, and motioned to the corporal to tear the frenzied Italian from his prey. This the astonished Luchesi could not understand.

"He kill, my pal!" he expostulated in broken English, with all the venom of his soul flashing in his eyes, and turned as if to spring again upon the crouching figure in the tomb.

"Out with him," directed the corporal, and they drew the sniper roughly from his lair. Never had I beheld a more abhorrent figure of a man.

Still gasping from the strangling hold which had been laid upon his throat, the great hulking brute scrambled to his feet and, cowering before us, leered about with features so hideous that they seemed inhuman. A pair of beady, pig-like eyes looked out from beneath their bushy brows, close down above which grew a mat of short-cropped, bristly hair. So small and flat was his skull that it accentuated the appearance of an almost superhuman strength in the neck and shoulders of the repulsive creature.

This was indeed a product of the Teutonic forest that would have delighted the very soul of Nietzsche and fulfilled his every dream of the German superman—the physical man which he had exalted and deified as the "blond beast" man of Teuton kultur!

Slowly we conducted him to my dugout, passing as we did through groups of wide-eyed, curious soldiers that had gathered along our route. There in the flickering light of a candle stuck in the neck of a bottle we examined more carefully our captive and the strange assortment of articles that had been removed from his hiding place.

A rifle of exquisite pattern equipped with detachable sights and a silencer made up the sniperscope set, while a dozen pouches on his belt contained a supply of ammunition. An oil can, a few flannel rags, a huge clasp knife, some tins of meat and herring, a package of hard bread, several flasks of beer and water, and a packet of greasy papers were found about his person.

The latter the intelligence officer opened and read.

If the creature before me had seemed repulsive before, now indeed did he seem more so. Here was the indubitable evidence of his guilt before God whatever may be said of his rights before man in the Court of War. Circular after circular we read containing official promises of pecuniary reward for snipers who produced unmistakable evidence of their victims. We had read of such things in the press and had heard them hinted of by the British, but until now had not credited them. I shuddered as the intelligence officer

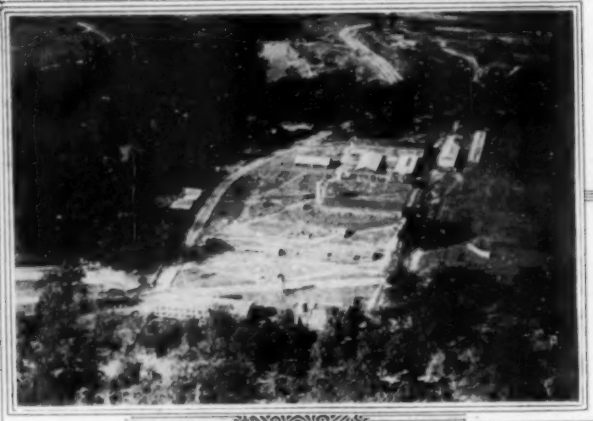
The WATCH ON THE RHINE

IN THE GREAT OUTDOORS. SERVICE ON THE BORDER.

TESTING THE TRANSPORT
THE MEXICAN "BURRO" CARRIES 150 POUNDS 15 MILES A DAY - LIVES ON THE COUNTRY AND THRIVES.

INSPECTION OF THE CORNELL R.O.T.C. UNIT

ARMY VOCATIONAL TRAINING - AGRICULTURE



Athletic field and storehouses in the foreground. Natural swimming pool in the background.

Every person competent to pass judgment on the Camp Benning project and who has inspected the area has unqualifiedly endorsed it.

The diversified terrain will permit the staging of a modern battle by all arms acting in cooperation and employing live ammunition. Nothing else will satisfy the requirements of modern infantry training today.

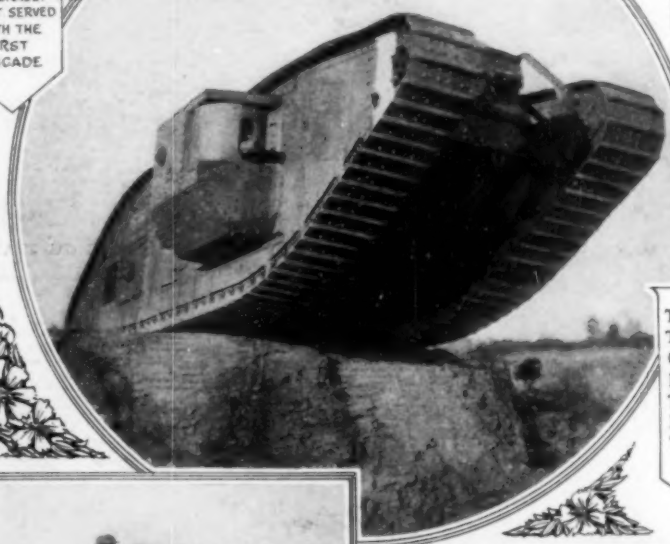
State of completion of construction work on soldiers' barracks.

The site is 60 percent complete. More than six millions of dollars have been expended and it will require an additional expenditure of two and a half millions to complete the project.

THE INFANTRY SCHOOL, CAMP BENNING, GA.

"ROUGH RIDING." HOW THE "BABY" CRAWLS OUT OF A SHELL HOLE. A RENAULT THAT SERVED WITH THE FIRST BRIGADE.

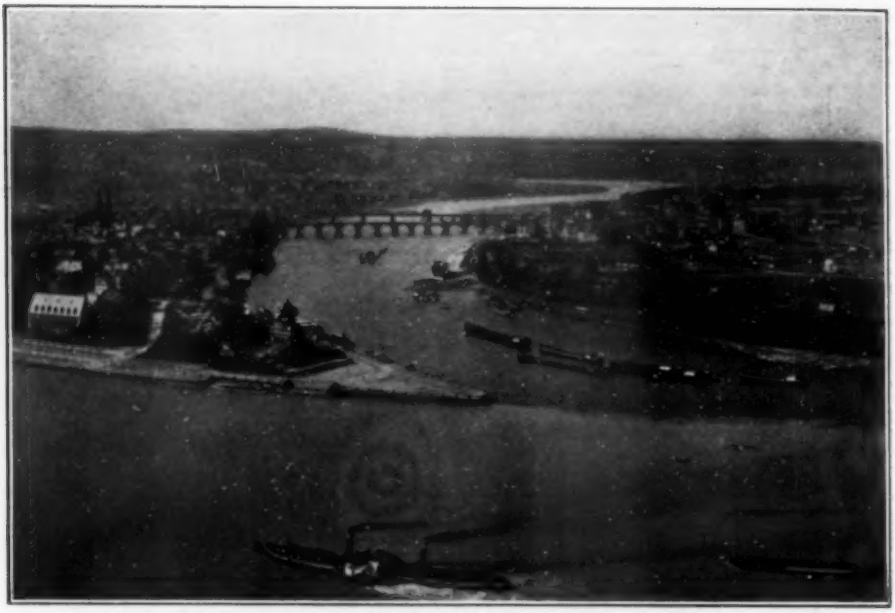
ACROSS NO MAN'S LAND IN FRONT OF VARENNES, BATTLE OF THE MEUSE-ARGONNE.



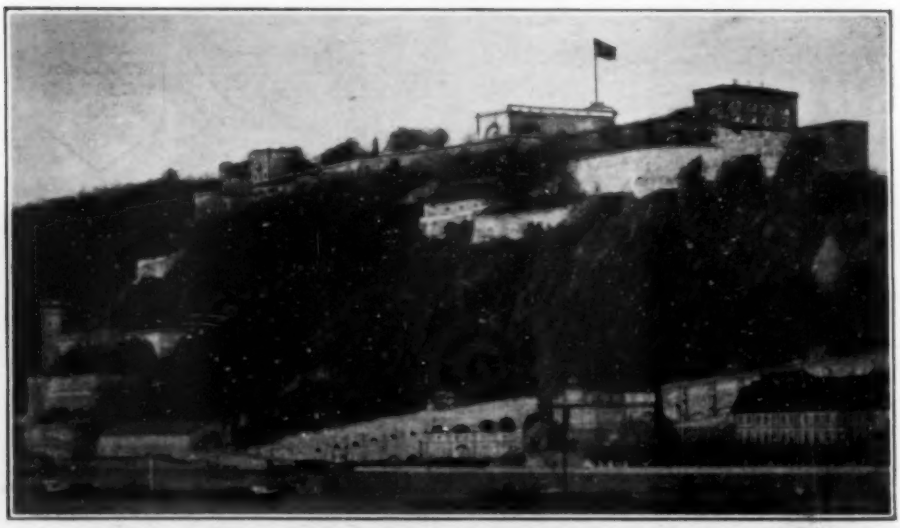
THE HEAVIES. THIS IS THE TYPE OF TANK THAT PLOWED ITS WAY TO CAMBRAI IN 1917 AND ON THE SOMME IN 1918

A PERFECT NIGHT. MIX ABOUT NINE OF THESE FELLOWS UP WITH AN INFANTRY AND TRANSPORT COLUMN ON A NARROW ROAD ON A DARK, RAINY NIGHT.

FOLLOWING THE "HEAVIES" TO THE HINDENBURG LINE.



COBLENTZ, GERMANY, WHERE THE HISTORIC RHINE AND MOSELLE MEET. HEADQUARTERS OF THE AMERICAN THIRD ARMY.



THE GERMAN FORTRESS OF EHRINBRIETSTEIN AT COBLENTZ—THE CONDITIONS OF THE PEACE TREATY REQUIRE ITS COMPLETE DESTRUCTION.

read: "For each identification tag of an enemy, 100 marks."

In utter horror I gazed upon the creature before me. A grin of understanding spread over his brutal face. "Yah! Yah!" he muttered in gutteral, swine-like grunts, and with a look of cunning pride tapped the necklace of metal discs that hung, unnoticed until now, about his bull-like neck.

From the expression of disgust upon my face I rather imagine the sergeant-major felt that without further orders it was time to remove the prisoner. They bustled him up the dark steps, and I heard the flap of the gas curtain as it fell into place behind them.

The atmosphere in the dugout had become stifling from the breath of many men. The mingled odors of strong tobacco, hot wax, and the brandy which I had poured from my flask was more than I could stand. It seemed almost as if the stench of that human beast had lingered behind him.

"Come," I said to the silent group of staff officers about me, "let us go out into the air!"

"Yes," the intelligence officer was saying to the adjutant as we went aloft, "it's the strangest case I've run across yet. I never believed that such things really——."

Crack! crack—crack! A hundred yards away we saw the flashes in the dark. No one spoke. We knew only too well what had happened.

Presently the Sergeant of the Guard arrived—just as we knew he would arrive. Clicking his heels together, he saluted the adjutant and reported as if on parade:

"Sir, I desire to report that the prisoner was unruly, tried to escape, and was killed by the guard."

"Just a moment, sergeant," I interrupted as the adjutant began to speak. "Who was in charge of the prisoner?"

"Private Luchesi, Company F, Sir!" was the quick reply.

So passed the beast of Martinsart.

Legion to Aid Mayor to Keep Order During Strike

Miami, Fla.—Maj. W. P. Smith, an ex-service man, was inaugurated mayor of this city on Thursday of this week. This afternoon he was honored by the voluntary appearance at his office in a body of 250 members of The American Legion, who offered their services in the preservation of law and order during the city-wide strike of all union workers, which has been scheduled to begin next Monday morning.—*Associated Press.*

These things help to carry out the slogan of the Legion:

100 Per Cent American.

Observation Balloons Serving with Infantry

By Colonel C. DeF. Chandler, Air Service

IT WAS found during the recent war that at times the division and higher commanders could not learn the exact positions of their front lines in a warfare of movement, as it was not practicable, under the conditions which existed, to maintain telephone communication with the moving troops. Observation balloons are capable of rendering great assistance to the infantry in such situations.

Balloon observers were often able to determine the front line, even at several miles distance, by seeing the hand grenades explode. Artillery barrage fire is also a good indication to observers of the location of the front line; at least it indicates the line as determined by the artillery.

The most effective cooperation between balloon troops and infantry is by using the balloon as a visual signal station for communication with troops on the ground. This is considered so important by the Italian Army that a special pamphlet covering this particular service has been issued. It is possible to use the various codes of flag signals, or to telegraph by operating a collapsible drum or other large mechanical device suspended below the balloon. In clear weather the infantry may communicate with a balloon by panels on the ground for conventional signals, according to the system as developed for airplanes, if the panels are displayed on a hillside facing the balloon. The observer in the balloon has a telephone connected to a switchboard which permits of his talking direct to division headquarters or any P. C. where the message is addressed. In this manner the reply could be returned with a wait of only a few seconds. None of the mechanical signal methods mentioned equal the efficiency of electric or acetylene signal lights: these permit of rapidly sending any messages by means of the telegraph code. There are in existence small portable signal lamps, so powerful that they may be seen 4 or 5 miles, even in daylight. The beam of light may be directed to a receiving station without much lateral diffusion, permitting the signals to be received only in the vicinity of the desired station.

Secret light signaling was highly developed in the United States shortly before the end of the war. Apparatus of small weight and size was perfected, which emits light rays visible to the eye only by looking through a prepared screen. There are a number of different light rays, each requiring a special screen for reception. The development of the invisible light rays also covered methods of producing and receiving rays which effectually penetrate fog and haze. The National Bureau of Standards exhibited these optical devices in April, 1919.

Although the balloons and the optical devices for signaling to ground troops are available, they cannot be successfully employed in war unless they are practiced in advance. In the American Expeditionary Forces, the few balloon companies available were assigned to artillery firing centers. It was unfortunate that we could not similarly supply balloons to the divisional training areas, to practice and perfect this val-

uable cooperation. Perhaps training plans in the United States will permit of our accomplishing this in the future.

Night Surveillance by Balloons.—Balloons in the American Expeditionary Forces were at times required to remain in ascension all night. The nature and extent of the information thus acquired are not generally known. The continuous observation by aircraft of enemy terrain during daylight hours made it impossible to effect large concentration of troops for an offensive without discovery. Moving bodies of troops on roads or trains in the advance zone were easily seen and also made excellent targets for enemy bombers. Therefore it finally became necessary for all armies on the western front to make important concentrations at night. Although lights on trains are not allowed within many miles of the front line, it was found that the sparks from the engine and the flares of light when the fire-door was opened permitted balloon observers to count the number of trains and their direction of movement. In addition to this most important information regarding troop movements, the observer at night sees many rockets and flares so that, if our secret service has learned the enemy's night signal code, it all becomes valuable information. Whenever the enemy planned a retreat, the night observers saw many fires and numerous explosions, indicating effectively the destruction of supplies preparatory to withdrawal.

On account of the ease with which dirigible balloons could be destroyed when inflated with hydrogen by even one incendiary rifle bullet, the chances of total destruction was too great to warrant their use with ground troops during the recent war. The development of helium entirely changes the situation. It is expected that, for nations having a supply of helium, their airships will in future wars prove most effective for night reconnaissance. Airships can carry far heavier armament than airplanes and will then be able to hold their own against attack by enemy combat planes. Even with hydrogen, dirigible balloons are now able to accomplish night reconnaissance and bombing against an enemy not supplied with incendiary ammunition.

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"Oh Boy—Some Eats!"

More than five and a half million chocolate bars were distributed to doughboys by Red Cross canteens in this country during the twenty months of the organization's greatest wartime activity. This is but one of hundreds of items on the Red Cross grocery bill. More than seventy million "smokes" and nearly fifteen million sandwiches were dispensed over the canteen counter. These numbers make no mention of the colossal "eats" which the Red Cross furnished the doughboys "over there."

Simplifying the Organization and Tactics of Infantry

By Colonel John H. Parker, U. S. Infantry

THE object of an army is to lick the other fellow. The visible mark of tactical success is to occupy and hold the ground and formations previously held by the other fellow, in spite of his resistance. There are three means used to accomplish this purpose: (1) The assaulting element, (2) the accompanying auxiliary, (3) the position auxiliary.

The assaulting elements comprise all the men and equipment that can go forward in the assault to actually occupy, lay hands upon, and take physical possession of, the organizations previously held by the enemy.

The Assaulting Element.—In the very nature of the case the assaulting elements must be prepared to conduct their operations *over any kind of ground, in any kind of weather at any hour, day or night, with only such equipment as can be carried by hand under these conditions by the men themselves.* Horses, bicycles, motorcycles, automobiles, and any kind of freight-carrying devices are out of place. For limited distances the tank can sometimes negotiate the terrain in limited operations and to a limited depth. Aeroplanes can supply limited cooperation above these agencies in a very limited scope of operations during the actual assault. In a general way, the assaulting element is physically limited to what it can carry *by hand.* This limits the armament to the automatic rifle, rifle grenade, ordinary rifle, pistol, hand grenade and bayonet. Any service that requires carrying *by freight* in order to keep up their ammunition supply is not an engageable organization for this purpose. It must come under the head of either accompanying auxiliary or position auxiliary.

The Accompanying Auxiliary.—The lighter formations of auxiliary that can be moved limited distances by hand and still retain their formations and overtake the assaulting infantry after it reaches a halting position comprise: machine gun, Stokes mortars, and lighter artillery, such as the one-pounder. The proper classification of this element is accompanying auxiliary.

The Position Auxiliary.—The position auxiliary that requires freight-moving devices drawn either by animals or tractors forms a third group, comprising various artillery, observers, and directive staffs.

It is thought that the foregoing analysis of fighting agencies is so logical as to be self-evident to any man who has had actual experience in command of assaulting troops; and in the last analysis all auxiliaries on the battlefield must be governed and managed by the needs of the assaulting troops. This last, and this alone, decides the contest, incurs over 80 per cent of the losses, and wins or loses the battle. All the others aid them, but nothing of the other elements, nor all of them combined, can take and hold the ground from the enemy nor advance our positions a foot. If this is true, *it follows that the organization of troops for combat must be based upon the convenience of the assaulting element, and*

that element must be organized to comply with General Chaffee's principles: "Nothing whatever should be included in the infantry that cannot be moved by hand over any kind of ground, in any kind of weather, at any hour of the day or night."

In General Chaffee's time the auxiliaries were not so complicated as they now are. In the development of these auxiliaries their allocation has been influenced greatly by the fear that they would be self-hypnotized by high-brow theories of independence, that unless they were made an integral part of the infantry they would fail to be in the fight when their assistance might be needed. There was a time when the artilleryman thought he had a monopoly of scientific soldiering and despised the flat-footed doughboy. It was a condition that did not tend to the close liaison that is necessary for effective cooperation on the battlefield. Even in the early days in France, until after the Chateau Thierry campaign, the colonel of infantry usually had to go back all the way to corps headquarters in order to secure adequate artillery aid. A lesson was learned that was applied in the Argonne campaign. Batteries of light artillery were placed under the direct command of regimental commanders of infantry, while brigade commanders of infantry had whole battalions of field artillery, and divisional commanders could give orders to the heavies.

The result of this old distrust has been the incorporation into the infantry arm of what is classified above as accompanying auxiliary. The infantry organization has now reached such a complexity that the infantry regiment in combat is difficult to manage; from the unit command of a platoon leader up to include the regiment as a whole. The platoon leader has at least seven different weapons, four of which are organized *in teams* that lose their efficiency with the loss of a single expert. The company commander has the same difficulty, and the battalion commander has it in a still greater degree.

The question is advanced for discussion as to whether or not a more logical allocation of the three groups cannot be made as a result of increased efficiency of liaison in combat. All of the accompanying auxiliary, as above classified, have in common the necessity of organization *in teams* in order to serve their respective utilities. The machine-gun organizes a team for its service, the Stokes mortars organize a team for the service of its pieces. These teams are organized on similar principles: a group of men to serve the gun, a group of men to carry and serve ammunition, and a group for liaison and supply. The number of men composing each team are slightly different, but the principles of the service for which they are organized are the same. These principles are different from the principles of the assaulting infantry, because in the assaulting element each man must act for himself, the unit of combat is the individual man in the assault—men aiding each other, but each man fighting for his own life. In the auxiliaries this is not true. Each man there is devoted to the team-work as a whole. The job is to get the team in action as a team. The job of the assaulting infantry is to get every man into action, each for his own life.

It is submitted that General Chaffee's principle is correct; that the assaulting element must be stripped of all equipment that would hinder its advance, and organized on such a basis that the

individual man would be regarded as a fighting unit, the platoon as a fighting group for direction and control.

It is believed that all of the accompanying auxiliary should be logically organized in each regiment as a group separate from the assaulting element, under a single command, with proper subdivision, and with such a regrouping of the combat elements as would greatly simplify management in combat. If this idea is carried to its logical result the organization would work as follows:

1. The automatic rifles in each battalion would be segregated into a unit of automatic rifles, a company, organized in teams, with its own captain, and would function as a utility of the battalion commander.

2. All of the accompanying auxiliary would be organized into platoons of the "A. A." company of the regiment, and would be the regimental commander's utility in action.

3. The assaulting infantry would be homogeneous in personnel, uniform in equipment, and capable of complying with General Chaffee's principle in every respect.

The brigade commander should have at his disposal in reserve a sufficient number of "A. A." companies to make a complete replacement. The division commander would have another reserve adequate to make a complete replacement.

For many years the writer advocated a separate machine-gun corps, in the belief that the highest efficiency of the machine gun could never be reached except by such an organization. During the last year in France experience in command of regiments and brigades, in the severest fighting that occurred, gave the writer an outlook of the higher command, tactically, and this experience has resulted in a modification of his views.

It is not a question of the highest efficiency of the machine-gun element, alone, that interests the writer, *but rather the highest efficiency that can be attained by a team comprising the three elements outlined in this discussion*, namely, the assaulting element, the accompanying auxiliary and the position auxiliary. Certainly the highest efficiency of the first element cannot be reached while the men are required to carry prohibitive impedimenta, and certainly the highest efficiency of the accompanying auxiliary cannot be reached unless they are under the control of the same commander who directs the assaulting elements.

In conclusion it is thought an absolute necessity to have a Chief of Infantry, with two assistants, who should devote their time respectively, the first assistant to the assaulting element and the second assistant to the development of the accompanying auxiliary. By this the highest development of both branches of the infantry would be insured, this idea being carried down to include brigades.

A Plan for the Reorganization of the Army

By Captain G. E. Cronin, Infantry

PLANS of reorganizing the Army have become imperative on the part of this country. It has finally become necessary for the adoption of a military policy of a permanent nature. The plan of universal training seems to be agreed upon by all concerned, but the means to be used to attain this end are still in dispute.

In the past two years we have had three kinds of armies: Regular Army, National Guard and National Army. These forces were armed, equipped, organized and paid the same way, and it was only in August, 1918, that the several distinctions were merged into the United States Army. The remarkable speed with which we have demobilized our emergency army of four million men leaves us virtually as weak as we were in 1917.

One solution of the difficulty would be first to localize all units of the Regular Army in proportion to the population of localities. Fill the regiments up with drafted men for one year, enlisting a skeleton nucleus for a longer term of service. The first class would be young recruits nineteen years of age; the other class older men who have served in the Army for many years and who would gradually be replaced by drafted men who would enlist at the end of their period of intensive training.

In the same district have the local National Guard units receive the drafted men from the Regular Army, less those who would elect to remain therein. Have the National Guard enlistment of these men made two years. Care should be taken to furlough 50 per cent of these men to the National Guard each year. Thus the first year of this system there would be called only 50 per cent of the Regular Army quota, which would be gradually increased until the full quota was reached.

After two years in the National Guard these men would be furloughed to the reserve corps into a reserve regiment for a longer period of three years. During this final period these troops would receive no pay and would be liable for service only in time of war or threatened hostilities. The average soldier would thus at the age of twenty-five be furloughed to the last reserve and there remain. Here he would not be liable for call until all the classes ahead of him had been called into active service.

Depot brigades would be established for each division, and the new recruits would be gathered there for induction. When the first and second classes would be in active service all the replacements for that division would come from that district. A plan of this nature would absorb the Regular Army, National Guard and Reserve Corps without totally destroying the individuality of each class. The numerical designations of the divisions could be the same as those used during the war, the seven Regular divisions to retain their present form, the National Guard divisions to perpetuate their old numbers from 26 to 42, while the third class, the reserve, would perpetuate the National Army designations.

Special units, like the chemical war service, tanks, air service, pioneers, anti-aircraft, etc., could be grouped in like manner. In recruiting these units of this character they should be located in communities where the corresponding civilian industries flourish.

Whatever would be the size of the army it presents the following advantages:

1. Absolute abolition of all service prejudice between the various classes of soldiers.
2. Elimination of desertion.
3. Reduction of the expense of recruiting for both the Regular Army and the National Guard.
4. Giving the Regular Army home stations, thereby arousing a civic pride and interest in the Regulars.

All of the officers of the Regular Army to be commissioned as per existing laws. All officers of the National Guard to be commissioned solely on professional fitness and repeal of any state law that requires an election. A popular officer is not always efficient. Reserve officers to be composed of training camp graduates, ex-National Guard officers and ex-Regulars.

Intelligent Peace Advocates Favor Increase of Army

President Arthur T. Hadley, Yale University, says:

It seems to me that there are two ways to invite war: one by having so strong an army that it tempts you to attack somebody else, and the other by having so weak an army that it tempts somebody else to attack you. The United States appears to me to be clearly in the latter position. Under the circumstances I think that the intelligent advocate of peace should be most solicitous to increase our army and to give a great amount of military training to men who are not in our army but would be ready to serve in case of war.

Concerning Machine Guns

By Captain J. S. Switzer, U. S. Infantry

TEN lessons are to be learned from the World War in regard to machine guns and their use. Four of these may be classified under the general heading of cooperation. I shall take them up one by one, in alphabetical order. First I shall discuss the ten points and what effect each had upon the use of machine guns. Then I shall give the reasons why each happened and in what manner they can be corrected. I submit this discussion as my solution of a problem, and, as every one knows, there are as many solutions as there are solvers.

Advice.—The opinion and advice of the machine-gun officer attached to a command was too seldom sought. This resulted in several things. The machine guns were not given due consideration; the machine-gun officer did not know the situation, nor what was expected of him; there was lack of team-work; there were bad feelings at times; the guns were used improperly, or not used at all; and, in general, the employment of the machine guns was not what it should have been.

Central Command and Control of Machine Guns.—The company, regimental, brigade, and divisional machine-gun officers did not have the command and control over their machine guns that they should have had. This resulted in these officers being mere figure-heads, especially the brigade and divisional officers. Machine-gun knowledge and special training in the control and command of machine-gun units, which had been taught at our machine-gun schools, were not given an opportunity to be applied. Proper organization for such special units, as are machine guns, was not obtained. The opportunities to employ machine guns on a large scale in barrage fire, indirect fire, and general attacks was rarely taken advantage of owing to the central control and authority of the machine-gun unit commanders disappearing once their units were committed to the attack. In training it prevented a schematic and systematic method of schooling whereby the machine-gun units within a brigade or division progressed together, in accord with one general plan, and whereby the various units could watch each other for improvements and original ideas, or errors. The machine-gun organizations were not independent enough. There are other disadvantages due to lack of central command and control, which can be readily thought out.

Guns.—The Browning gun did not reach the front soon enough. French guns were used, and the men in most cases, and especially the officers, knew that in a short time American guns were to be used, hence they did not put the study and drill on the French guns that they might have otherwise done. Better results were to be obtained by the American guns which the French guns did not make possible. The Hotchkiss possessed many sturdy qualities but was not equal to the Browning in many respects. They handicapped our machine-gun tactics, notably in barrage and indirect-fire work.

Liaison.—In this phase of the war there was much room for improvement in all branches of the service. It was especially deficient at the start between infantry and machine-gun units. As a result machine guns were frequently at a loss to know where their infantry was, supplies were lost, orders did not reach their destination, machine-gun squads were often left by the infantry when it advanced and retired, or was relieved. Cooperation in general and special attacks was prevented, connection between headquarters and adjoining forces was disrupted, and so on.

Maps.—The absence of adequate maps was too apparent time and again. Large scale maps for indirect and barrage fire were a rare occurrence, and often the small battle and situation maps gave out at critical moments. Machine-gun commands were not able to render proper aid. They had to advance into country without maps, and were, on many occasions, idle when they could have rendered most valuable service.

Personnel.—Intelligent personnel was grudgingly given. It affected the p oper care and use of the machine guns and the instruments attendant on their use. Training was made slow and execution at the front faulty and sometimes impossible.

Training.—The training of machine gunners was hurried, not sufficient, and in the case of replacements often entirely lacking. Equipment was short for training and so were ranges, maps, instruments and instruction. This naturally made for less effectual showing at the front, and the proper use of guns in general presented the company and battalion commanders with considerable more work in breaking in new men and slowed up the progress of the units. There was little knowledge of emplacements, shelter, harass ng fire, etc., except what was learned from actual and costly experience.

Orders.—Orders did not give machine-gun commanders the work in the nature of a task. The orders generally specified too exactly what the machine guns were to do. Frequently not enough information or direction was given, and now and then they were completely forgotton. This prevented the machine-gun officer from performing his duty in accordance with his teachings at the machine-gun schools and in accordance with machine-gun tactics. It limited his action. It did not allow the officer to know what the infantry intended to do, what was expected of him, and then leave him to execute it. Proper provisions for the special task and nature and equipment of machine guns were not taken into consideration. Occasionally no order was sent to machine-gun commanders at all. They found out from asking questions, if they had time, or if in a position to do so.

Transportation.—The cart used almost entirely by machine-gun organizations proved satisfactory in most ways. It was, however, not adapted to wooded country, trench crossing, entanglements, hilly places, nor silence. This meant heavy and long hauls by the gun crews, abandonment of equipment and often guns and supplies, broken carts, and noise on hard roads back of the front lines in bringing up supplies by night. It meant the loss of effectives and fire power at critical points.

Tactical Employment.—Machine guns were sent over the top with the first infantry waves in the initial assault; were used to *rush* and capture other machine-gun nests; were improperly

distributed for their tactical use; were given tasks rightly belonging to automatic riflemen; were too heavily imposed upon or not regarded in the general plan at all; were looked upon as so much added infantry; and, as said before, sometimes forgotten. All this meant failure in machine-gun employment, lack of cooperation, and might have meant ultimate failure of success in battle. Gun squads attached to infantry were not properly protected by infantry nor supplied with carrying parties.

So much for the ten points, what they are, and how they produced unfavorable conditions. My next endeavor is to give the reasons why they were, and suggestions for their remedy.

Advice.—If you were in need of expert legal advice you would go to a lawyer. Why? Because he has studied law and knows more about it than you do. If you were director of a large concern, or any concern for that matter, and someone who knew very little about your work attempted to tell you how to do that work, you would resent it. If that man happened to be a partner in business, it would strain your relationship with him and spoil cooperation. Having drawn attention to the latter phase, let us consider the lesson learned and ponder over the former. Did unit commanders having machine-gun officers with their units ask advice of them? In most cases they did not. Why? A number of reasons can be given. To begin with, officers did not know that machine guns were so different. They had read about them and studied them to some extent. They believed they knew enough to handle them tactically. They had been taught to consult the artillery officer for knowledge, but not the machine-gun officer. The expansion of our army was so rapid that many special branches crept in, or rather burst into the service. It was impossible to keep pace in all branches. Therefore officers were made special experts in these lines. But these were, in the great majority of cases, young officers and junior to the men who commanded them at the front. Now a senior officer does not like to admit that a junior officer knows more than he does, and a junior officer, if he knows his officer's manual, does not force him to admit it. There resulted a situation wherein expert advice was at hand but not asked for, nor volunteered. A general is not apt to ask advice from a major, a colonel from a captain, nor a major from a lieutenant. Yet this was the relation in grades between machine-gun officers and their front-line commanders.

Again, we find some officers, who, as mentioned, have tried to keep posted and think they are equal to the task, and others who are capable, if they had the time. By the last I mean that our majors in the front line who did know quite a little about all the various special units, machine guns, light mortar, 37-mm., signal pyrotechnics, etc., virtually worked themselves to death. For example, an order for an assault comes—at the eleventh hour sometimes. The major, feeling his responsibility for the success of everything, instead of calling on his special unit commanders, giving the information *about the attack in general and the infantry in particular*, and specifying what he wants them to do and letting them do it, will sit down and work it all out himself with a few questions now and then. Result—a replete order for everybody with loss of time, and cooperation, and results.

The artillery officer has received his orders separately, or gets the general

situation from the major and makes his plans accordingly, but it never occurs that the same thing should be done with other special units, which are almost as different as the artillery. So that even if the officer did know all about the use of machine guns, he would save time by giving the machine-gun officer his job the way he is supposed to have it, and devoting his own time to his special command—the infantry.

When the machine-gun officer submits his plans, he can tell at a glance if he knows his job, make necessary corrections, and be a real general manager. But not knowing all about machine guns and not realizing the characteristics of that arm, he also fails to see the necessity of asking advice from the machine-gun officer. If by chance a spunky one interferes enough to remind him of the machine guns, or to suggest something, more than likely he is told a few things. And it not infrequently happens that in the stress of the moment he forgets utterly the machine guns and lets it go at that, or else the machine-gun officer has to make the best of it, or he receives most hurried and jumbled orders.

I have referred to the front-line battalions mostly, because that is where we find the guns. The brigade machine-gun officer has, as a rule, long since lost direct control. His command is split up with the battalions or held in reserve. Rarely was he asked to contribute to the brigade order. The brigade seldom handled the guns tactically except in a general way. The same is true of the division. A brigade or divisional plan seldom appeared. Yet the divisional machine-gun officer, the brigade machine-gun officer, and the regimental machine-gun officer are the men who should always be in attendance upon their respective chiefs, to advise on the use of their guns and aid in the preparation of the order relating to their special units. If this had been more generally done, there would have been more use of barrage and indirect fire, to say nothing of other improvements. The lack of appreciation of the special nature of machine guns was responsible for this slowness to grasp the necessity to begin to ask for advice about them. It is not the fault of the officers that they did not have a better knowledge of machine guns. Machine guns had sprung into being, officers had sprung into being, special schools were not available to everyone at once, and one learned by experience, but gradually. Under the circumstances it is not to be wondered at, for when things grow rapidly and one does not have an opportunity to find out all about them, one cannot be expected to realize that they call for special treatment. But that lack of understanding of machine guns was the root of nearly all evil in the proper handling of the guns and failure to turn to the machine-gun expert for his opinion and advice.

Central Command and Control.—The absence of familiarity with the use of machine guns worked against central control and command also. The British used it, and so did the Germans, but the French were slow to realize it and so were the Americans. The machine gun was looked upon as an infantry weapon, which it is, but not as one requiring a great deal of special training and handling by machine-gun officers. Machine guns dragged along behind the infantry at the front and in training. The brigade and divisional machine-gun officers became administrative commanders almost entirely. An attempt

to make for divisional or brigade plans in machine-gun training or operations was frowned upon as radical and not necessary. They became a sort of fifth wheel, rumbling along in the way and making a deal of a fuss. One battalion packed, drilled, shot, and maneuvered one way, and another battalion another. The regimental companies were forlorn and lost sheep. No one knew the mistakes of others to profit thereby and the new ideas others had for additional gain. One infantry commander handled them one way and another the opposite.

Machine-gun officers wondered what next would be the fate of their commands. There was no centralization. All this because the brigade machine-gun commander could not do as he liked in the matter of training. He wanted uniformity throughout the brigade machine-gun units. He wanted the infantry commanders to understand his officers, his men, and his weapon. But without a divisional plan this was hard, and if brigade and divisional commanders did not see the need for it, there was little chance of obtaining it. Infantry units were trained systematically, but not machine guns. They were left to shift for themselves and at the same time forced to comply with the divisional, brigade, or regimental drill schedules. At the front we find the brigade and divisional machine-gun officers out of a job. The idea was to turn the machine guns over to the infantry. This brought on more lack of understanding and cooperation. Concerted help in attacks, barrages, indirect fire, and so on, were practically out of the question. The brigade machine-gun officer should be in direct touch with all guns of the brigade and be able to control their tactical employment. He should be with the brigade commander where he can have early and accurate knowledge of the entire brigade front. He will be able to shift his guns and place them to best advantage then. The officer at the battalion or regimental posts of command cannot have this information for he has his one sector only. The same thing applies to the divisional machine-gun officer, whereas the regimental machine-gun officer should be with the regimental commander and the company commanders with the battalion posts of command. They are then in touch with their sectors and should keep their immediate machine-gun superior informed of the situation. This means liaison, which we shall talk of later. Being experts in their work they should be consulted about it by the sector commanders they are attached to, and given their work in the nature of tasks, not in minute details by some one unfamiliar with it. This would give unity of machine-gun action. It would enable powerful aids to attacks being given by batteries of indirect firing guns, barrage batteries, harassing work, support at critical points, and so on. Guns would not be aimlessly committed to the lines when not needed nor otherwise wrongfully used. Out of the front-line areas the training could be standardized for division and brigade, progress noted and observed, infantry instructed to cooperate with machine guns and machine guns with infantry. This subject is capable of expansion into a view on a machine-gun corps. We shall leave it alone.

Guns.—There is little to be added to the note about the late appearance of Browning guns. It would lead only to a discussion on military preparedness. Had we been prepared we would have

had machine guns of our own, ammunition of our own, ballistic tables, etc., and been able to fire more accurately, to fire barrages, indirect fire, and to do better work in general in a machine-gun way.

Liaison.—Machine guns, although different in tactics and operation from infantry, were attached to infantry units. Being under their own officers these machine guns were time and again not informed of contemplated advances, retirements, or movements in general at the front. Infantry did not try to keep in touch. They were left to hunt about as best they might. Here the blame is divided, for it was the duty of the machine guns to keep in touch, to the front, flanks, and rear. But the cooperation fell down again. Machine-gun squads are, from their nature of fighting, often widely separated and reduced in numbers, so that it is impossible to have a man for a runner to the nearby infantry. The infantry can better keep in touch with them. But first of all the machine-gun officer should have his own runners know where all his guns are located. The lessons learned for all branches are applicable here. The infantry was not at fault entirely.

The machine-gun liaison was poor. A system of liaison should be complete from division on down to the company. The machine-gun commander must not rely on infantry runners to various P. C.'s but have his own. The next higher officer must be kept informed of all the what's, when's, why's, where's, who's, which's, and how's. Only by such information can he use his guns and men to the best advantage. In this connection emphasis must be laid again on the proper method of writing field messages. They were woefully weak at first. Also, if nothing happens, it is as important to say so as it is to tell of something going on. If the brigade and divisional machine-gun officers are to function at all, they must have information of their sectors, and to have that they must have better liaison of their own than was had most of the time. Cooperation is impossible without it. Blind cannot lead blind.

Maps.—Little can be added here to what has been said about the scarcity of maps. Every effort must be made to give artillery and machine guns adequate maps if they are to do adequate firing and give adequate support. Along with the best of maps must go personal reconnaisance. *This is vital.* Too little of it was done. Country on a map does not look the same as it does on the ground. Then, too, remember the sunken road of Waterloo. In machine-gun work personal reconnaisance cannot be too highly emphasized. It is 50 per cent of machine-gun work at least.

Orders.—Here the knowledge of machine guns comes back. It is like the proverbial cat. Ignorance of the use of the weapon is the cause for so little and so much being put in orders about it. That is the main reason. A machine-gun commander should be told what the other arms are to do, when, and why, then what is expected of him (or his advice on that asked), and then told to do it, and *not how* to do it. Many officers, as I have said, thought that they were obligated by duty to write all the orders for their special units, some thought they could do it anyhow, and others because of professional pride or a kindred reason would not ask advice, but just went ahead and ordered things done and had them done, occasionally in spite of an objection by the machine-

gun officer, and some would forget them. Many orders were impossible of execution, or fatal, or foolish, or dangerous, or irrelevant, or the whole business. Knowledge is the thing.

Personnel.—No one now questions the necessity for selected personnel with machine guns. The technical functioning of the gun itself, and the intelligence required to fire barrages and indirect fire, are phases of machine gunning which demand men as well qualified mentally and physically as the average infantryman. At the outset it was hard to convince infantry commanders that it was to the best interests of all concerned to transfer good men to machine-gun companies and battalions. As a result machine-gun units worried along with cast-offs for quite a long period during the training days, and some only too near to the time for actual embarkation for the front. Only those who have endeavored to pound the knowledge of machine gunnery into alien as well as purely ignorant minds can realize the apparent helpless and discouraged feeling that pervades the atmosphere. It could not be done. Often, too, we found physical impossibilities given us. A machine gun with its equipment, and the drill attending it, to say nothing of its actual front-line use, is no plaything. It requires a good, husky man. Anyone doubting that statement can take a tripod, or a gun, or several cases of ammunition on his back and walk about a mile with it, under pleasant weather conditions and in perfect safety from shells, and a level road too. It will change his mind; if not, he can try battle conditions. Then if anyone questions the need of a trained mind, let him go out to a range and walk under a machine-gun barrage. He will have a feeling that he wished he knew that the men firing the blame thing were fully competent. The reason for non-appreciation of trained men being needed again traces back to insufficient acquaintance with machine guns and their use. This lesson, I believe, is well known now, but it was not brought forcibly home in the early part of the war.

Training.—This word means preparedness. The value of training cannot be denied. We were not prepared for a war such as we were involved in, and time was not available for full training. No more need be said.

Transportation.—Experiment had not progressed very far in machine guns, and our only method of transport had been mules bearing the machine gun as a pack. We therefore adopted the ways of others. The application of the motor car was one of the features of the war. The use made of it for machine guns needs no better illustration than the historic arrival of the 7th Machine Gun Battalion, 3d Division, at the Chateau Thierry bridgehead. But that one event, early in 1918, should have made for more motorized machine-gun units. Two companies to a division is not enough. It is not hard to create a larger motorized department of machine guns. The cart did its work well, especially the British type. There are many places that it cannot go, however, or, if it does, soon plays out and must be abandoned, which means loss of effectives and equipment. Again, it was pretty noisy on a still night on hard roads near the front, at least more noisy than animals without carts. So for the purpose of bad roads, heavy cross-country going, especially in mud, and for narrow paths in dense woods, in hills, and through cut-up and shell-destroyed areas, over

trenches, and the like, our old pack mule can't be beaten. He would have meant the arrival of many a gun squad with its entire fighting equipment, which, due to the cart, did not arrive. He would have brought up rations and supplies with less noise. He could have been led through a black night in a thick wood or underbush where the cart did not go. He would have saved the strength of the gun squads in these instances and would have brought the gun along at the same time. In that never-to-be-forgotten march across the Verdun battlefield, where machine-gun carts fell into shell holes, seemingly miles deep; into the deep entrances to dugouts from which it took a derrick to get the animal out; down and up the never-ending lines of precipitous trenches, where cart and horse were practically pulled out by the gun crews, only to be abandoned at the next trench; through wire entanglements; in mud up to the hubs—there the pack mule would have carried our guns well and the men would have been less worn out. The army mule must not be discarded yet.

Tactical Employment.—Back we go to education in the machine gun and its characteristics for the excuse, with its companion excuses for the lack of opportunity to gain this education. A thorough study of the weapon, and its helpmate the automatic rifle, has within the past months brought to light the errors first made. It is seen now that liaison patrols and combat patrols cannot keep up with a regulated advance based on infantry march when assigned machine guns. The heavy machine gun cannot do it and be effective. Machine guns can't go over the top in the initial assault wave where speed frequently means success. These several jobs belong to the automatic rifle. Remember nothing is more helpless than machine guns and artillery on the move. Machine guns cannot well combat machine guns. It can be done, but under certain conditions only. Crews of machine guns must not be asked to try to take machine-gun nests by infantry methods. The distribution of guns on the front, their mission, and their employment must be ordered with judgment based on familiarity with the arm. Yet all this was overlooked or disregarded. Officers little informed about machine guns insisted upon telling the machine-gun commander how, when, where, and why he should use his guns. Generally he made a mess of it. Barrage and indirect fire never occurred to him, or he wanted it laid down from front-line positions where the flatness of trajectory made it impossible. Time and again machine guns were in the wrong place, or not strong enough, or too strong, or not present at all. Why? Certainly not because of the machine-gun officers. They knew what was needed, but found themselves under someone who did not ask for them at all, or ordered them about without consulting them. They just didn't realize what a powerful help lay at their hand and how and when to use it, nor did it occur to them to inquire of their machine-gun officer what the possibilities might be for the use of machine guns.

Another good thing is to have machine-gun companies of a battalion work steadily with certain battalions of infantry. The machine-gun officer and his infantry battalion commander thereby get acquainted. The men get acquainted. It promotes teamwork and cooperation. Each knows what the other's abilities are and what to expect.

This should come under training, but it is the practical tactical employment which counts and where it is felt to best advantage.

And again we must refer to the actual participation in the tactical employment of his guns on the part of the brigade and division machine-gun officers. That is what he is for. The machine-gun battalion company commander must work with his infantry battalion commander on the tactical use of his guns, and the regimental machine-gun officer with his commander also. Or the brigade machine-gun officer may think it best to have one of his officers of his staff with each regimental commander, because, as a general rule, the machine-gun battalion officers are a little better trained and skilled in machine guns than the regimental machine-gun commanders, being entirely with machine guns and having the advantage of a trained major over him and the daily lessons of the other machine-gun battalion officers constantly before him. Infantry battalion commanders and all field officers of a brigade or division should attend instructional talks or schools (not necessarily the big machine-gun schools) on machine guns, and then apply the acquired knowledge by cooperating with machine-gun units in training.

The machine gun is so closely allied with infantry work that knowledge must be had about it for correct use. A machine-gun company or squad, when it reports to an infantry commander for duty, must not be looked upon as so much additional infantry just because the fire power developed is in the nature of infantry fire many times multiplied, or regarded as a lumbering nuisance, or a handy jack of all trades equal to all occasions from bombing enemy trenches to leading hand-to-hand raids. A small point which is not exactly tactics, yet important in its way, is the furnishing of carrying parties for machine-gun squads attached to infantry units. Two difficulties were faced, the slowness of infantry commanders to use their men for this purpose and the disappearance of the infantrymen after they were sent on missions. A machine-gun company has few spare men to carry out its functions, and these carrying parties give great aid. It keeps trained men at the guns where needed, facilitates the bringing up of supplies and ammunition, and reduces unnecessary labor on the machine-gun crews. It is the heavy equipment, great consumption of ammunition by the guns, and lack of sufficient men to serve a machine-gun company for carrying purposes and keeping skilled men at the guns at the same time which makes this help from the infantry necessary. For the same reason (lack of men), and because machine gun units are not equipped with rifles and bombs, there should always be a protecting combat squad or group from the infantry with isolated machine-gun crews. The tactical reasons are clear enough. However, it was difficult to get this done or to convince the infantry group sent that they should remain on the job as long as the machine-gun crew. These points are "minor tactics," so to speak, but have their place in the proper handling of guns just the same.

It is hoped that the reader does not think that the foregoing is a sweeping denunciation of all divisions, and that all the faults mentioned were found in all divisions. That is absurd. It is merely a general summary and generalization submitted with the hope that in its perusal some good will be done.

The Future of the National Guard

By Colonel John W. Heavey, Infantry, U. S. Army

THE reorganization of the National Guard has been making slow progress up to this date, November 19, 1919. Efforts have been made by the War Department to encourage the organization of this force in accordance with the Act of June 3, 1916, and the appropriations by Congress which became law July 11, 1919. The force at this date amounts to a little more than 1,100 officers and 35,000 enlisted men. Generally, throughout the United States, the blame for this condition is placed by the state authorities upon various causes, the main one being the attitude of the War Department toward the National Guard, which attitude is not clearly understood, so far as can be determined from the public press. Again, some of the Regular officers who oppose the National Guard, under all conditions, have, unfortunately, allowed such views to influence their actions in dealing with the National Guard. There are many National Guard officers who are similarly opposed to the Regular Army. The views of these two classes do not represent the best views of the two services nor the best interests of our nation. We need unity and not opposition to develop a national military force. Some importance is also attached to the fact that our men have been surfeited with war, and again, the attitude of labor organizations toward this force designed for the maintenance of law and order throughout the states. But whatever be the real cause, it must be apparent to the general public, to state officials, and the permanent establishment that the assumption of military obligations by volunteering will not produce in this country a suitable military force. The great World War was won by the *selective draft* and not by volunteering. Will our nation ever learn the lesson? It is hardly worth while to waste any further effort upon that class of our citizens who have not been convinced that military training is a necessity for this country's progress.

The newspapers have recently announced that the House Committee has prepared a bill covering the Regular or permanent establishment, giving it a strength of 300,000, a single list for promotion based upon length of commissioned service, promotion by selection, a chief for each branch, and numerous other innovations, but up to this time nothing has been said concerning the ultimate item of universal military training or the future of the National Guard other than to intimate that it will be considered some time in the future. This attitude is the greatest drawback to the development of the National Guard.

The Act of June 3, 1916, is still in force, except the part pertaining to organization, and if the efforts now being put forth do not produce the reorganization of the National Guard, the state authorities and the Militia Bureau, who have been interested in its organization, must admit that its organization is impossible under present conditions. However, the Constitution of the United States requires the maintenance of Organized Militia and fastens the Militia

System upon this government so securely that it will require a modification of our Constitution to rid the nation of the National Guard or Organized Militia even if such a step should be deemed advisable. In fact, Organized Militia will exist so long as our Constitution exists, and it seems, therefore, the imperative duty of every patriotic citizen to make of the National Guard, the Organized Militia, the most efficient body of troops that it is possible to make under the present laws and conditions. The greatest drawbacks in the past have been: The ancient history of the Organized Militia, depicted by Washington, and emphasized in Upton's "Military Policy," the failure of the nation to realize the great progress that has been made in state forces. The Organized Militia described by Washington has little relation to the National Guard divisions that fought in France, and the citizen or soldier who fails to realize the wonderful evolution in this force, even from the days of 1898 until the days of 1918, must be filled with prejudice or surrounded by ignorance. The antagonism between certain members of the permanent establishment and certain members of the National Guard is another great drawback. Lack of numbers, lack of training, lack of thoroughly trained officers—a system which will overcome these deficiencies will prove of great benefit to the National Guard and the country as well.

It is realized that a great many opponents of the National Guard, the Militia, are strong advocates of a state constabulary or police, and when we investigate this we find that each member of a constabulary force costs at least $1,800 per year and probably will cost much more in the future. The recent war has shown the necessity for a force of at least 130,000 men for strictly state purposes under our present form of government. Very few states could afford the enormous expense of sufficient constabulary and take care of those duties, which are of a strictly state nature. On the other hand, the federally aided National Guard makes it possible for the states to perform their full military duties under our form of government at a minimum expense to the citizens of the state. This system has been tried in the past and has undergone no failure. It has produced results—perhaps not the best results—but it has produced decidedly good results. The Act of June 3, 1916, was in force scarcely one year before the National Guard organizations under that Act were called into service in the great World War. The results obtained, of course, were not perfection. The law was not operating properly. It is not operating properly yet. It can be said, without fear of successful contradiction, that the National Guard furnished the basis for seventeen infantry divisions for the great World War, not completely trained, as their instruction had to be completed after they came into federal service, but they furnished organizations immediately as a basis for seventeen divisions, which credit cannot be claimed by any other class of our federal forces. Bear in mind that organization is the greatest problem of modern war.

The combating forces bearing upon military training should get together and work for this nation and not for their own individual ends. It is believed a reasonable plan which will appeal to the states, to the Federal Government, to every patriot interested in our future military policy, can be perfected which will utilize all of the

desirable provisions of the Act of June 3, 1916, make use of all the available state armories, state storehouses, rifle ranges, etc., which are now in existence and under state control, and comply with the provisions of our Constitution, and take advantage of every step so far made in the evolution of our military policy.

The general outline of such a system is submitted herewith in the hope that the National Guard, Congress, and our citizens will give it serious consideration.

First, we must have universal military training of our young men by districts and in tactical commands sometime during the ages of eighteen and twenty one, inclusive, for a prescribed period. We need the very best instructors available, as we desire the best product. The duration of this training period will be a subject for discussion but, basing the time upon what was accomplished in our training camps of ninety days during the recent war, it is believed that a period of three months will be sufficient for a beginning. This period, furthermore, can be obtained, and preferably, during the school vacation in the summer months. The training must be confined to military training because the time is so short. This minimum of three months' training should be given to only those who understand the English language. A longer period must be demanded of those who must learn our national tongue. According to our census table, we would secure at least 500,000 young men for this training each year. When they have passed through the military training of three months we have a product which should be utilized as a federal reserve to our federal army. The three months' training period would put the young men on edge for further instruction, whereas a six or nine months period will surfeit them with military instruction. The product of this federal training should be divided into two classes:

Class A.—Those individuals who have had three months' military training under federal control and who enlist in a National Guard organization of their respective communities for a period of three years. After the expiration of the three years' enlistment, this product of military training should be released from any further military obligations, and during their three-year enlistment they should be given the same duties and privileges as are now extended by the Act of June 3, 1916, to members of the National Guard. The number of men allowed this privilege of volunteering for service in the National Guard, as we now know it, but which would be composed of "Federal Reserve, Class A men," should be limited each year to one-third of the total number to be maintained. The balance of the year's product of universal training should pass into Class B, which will be described later.

At the end of three years we will have a force performing the duties now performed by our National Guard who have been well trained at the beginning; who have been required to undergo one hundred and ninety-two hours military instruction each year for three years. These men should be located in or near the localities of their organizations and should be available for quick concentration. The shortening of the period of military obligations to three years will, without doubt, produce an excess of men who desire enlistment in this force, but the number, whatever it may be, should be restricted to those necessary to fill up completely the

organizations planned for our present National Guard in a federal capacity and constitute our *First Reserve*.

Now as to the officers of this force. The officers with service in the recent World War and who are now in the Officers' Reserve Corps, or who desire to enter the present National Guard and have had war service, could well be utilized as the officers of this force at first. A special course, in addition to the three months' training, should be held for those members passing through universal military training who desire to become officers later. They should be classified as to their ability. Section 74 of the Act of June 3, 1916, could well be modified so as to limit the appointing power of the governors to those officers who have been qualified as suitable for officers of the Officers' Reserve Corps, and to such other officers as might prove their merit by means of competitive examinations.

This accomplishes the same results as are now obtained under present law, but in reverse order and with less mortification to the National Guard officer. Provisions must also be made to utilize the services of men who are already in the National Guard.

Class B Men.—These should be the men who have passed through universal military training who do not live near armories and who would be unable to attend to the duties required of the National Guard by the National Defense Act of June 3, 1916. They would be also made up from any excess above the yearly quota who volunteered for enlistment in the National Guard. The men of this class of federal reserve should be held for military service for a period of at least six years with the obligation to attend such field training as may be prescribed for a period of not less than two weeks nor more than one month in any one year. They should be assigned to tactical units by district and constitute a *Second Reserve* or replacement divisions.

It is not known by what system the permanent establishment is to be maintained under the new army bill, but, assuming that it is by volunteer enlistments, it is very doubtful that the full number of 300,000 can be successfully maintained in this country by voluntary enlistments. If this be the case, it will be necessary to permit additional men from the product of universal training to furnish the number required for the permanent establishment, and it would seem the better policy to provide that the deficiency between the full strength of the permanent army and the number who voluntarily enlist therein will be made up from Class B men, who will volunteer their services in the Regular Army for one year with the privilege of a release from further military obligations in the future, except during times of national disaster.

The above is an outline, and a workable outline, for a bill which will produce in this country one army, "The United States Army," made up of a permanent force and a federal reserve. It will also comply with the provisions of our Constitution, authorizing the states to maintain a National Guard or Organized Militia and the governors to appoint the officers of such forces.

The table on the following page shows the development of this plan by years.

Procedure in Time of National Emergency.—As soon as forces of the permanent establishment seem inadequate, then the First Reserve is called upon,

then the Second Reserve, then the men of the most recent classes, in order, who have completed a period of six years' military obligation, those who have earned release being omitted or exempted.

Permanent army.	Universal training, 500,000 young men each year.		Total	Remarks.
	Class A, National guard, 1st reserve.	*Class B*, supply permanent establishment and 2d reserve.		
1st Year, 300,000	150,000	350,000	800,000	Less shrinkage by deaths, disability and enlistments in Regular Service followed by release. N.B. 450,000 Class A will also have secured release.
2nd Year, 300,000	300,000	700,000	1,300,000	
3rd Year, 300,000	450,000	1,050,000	1,800,000	
4th Year, 300,000	450,000	1,400,000	2,150,000	
5th Year, 300,000	450,000	1,750,000	2,500,000	
6th Year, 300,000	450,000	2,100,000	2,850,000	

The above is the bare outline, and the writer would be glad to receive comments and criticisms upon the plan from the permanent establishment, the National Guard and from any interested citizens. [*The author's address is: Colonel John W. Heavey, Militia Bureau, Washington, D. C.*—EDITOR.]

Varied Ground

The Truth

To the Editor,
Sir:

I read with great interest your editorial in the current issue of the Journal entitled "On Not Being Liked."

I can see the basis for this feeling against the Regular Army Officer. I saw it first in August, 1917. At a certain training camp in 1917 a number of Reserve Corps officers were detailed as instructors along with a few Regular officers. The Reserve officers were picked men, selected from among those who had graduated from the first camp.

The majority of the Regular Officers in the camp treated the Reserve Officers with scant courtesy; there was little or none of that "elder brother" feeling. As a Regular I realized that conditions were unfortunate and bound to bring about bad feeling and antagonism against the Regular. The Reserve Officers and the National Guard Officers, if they are intelligent, realize that they are novices, more or less, and look to the professional soldier for instruction and sympathetic criticism and help. They will take correction gladly if given in the right spirit, but they will resent bitterly a condescending attitude or scornful treatment.

Unfortunately the officers who brought the greatest ill will against us were among those who were the least efficient. They tried, without success, to camouflage their inefficiency and lack of professional knowledge behind a gruff, discourteous, condescending and unsympathetic manner. They openly, or almost openly, voiced and showed their contempt for the so-called "90-day officer." The latter was, in many, many cases, a successful business or professional man. Very often, too, he was a man who had been handling men and had surrendered a highly paid position to give his services to the country. He expected to perfect himself in his new profession by experience and through helpful suggestions offered by older and more experienced officers only to be embittered against the Regular Army by the boorish, ill-bred and conceited manner of an entirely too large percentage of our officers.

It is too late now to undo what has been done, but we can at least avoid a repetition of this undesirable line of conduct during maneuvers and periods of training when Regular Officers are thrown with Reserve and National Guard Officers. They are gentlemen, they are earnest, they are educated, and we must not let a few of our "small fry" officers bring resentment against our whole establishment through their failure to strive for team work and whole-hearted cooperation.

Very truly,

One Who Has Seen The Light.

Why Cornell Has the R. O. T. C.

At the opening of the fall term there were approximately 100,000 students in 265 educational institutions of all classes enrolled in R. O. T. C. units. These institutions are located in every state in the union, including Porto Rico and Hawaii. Cornell has an enrollment of 1,725 in an infantry regiment of 14 companies and an artillery battalion of 3 batteries.

Why? There are four very important reasons:

1. There is not a reasonable human being who does not hope that the League of Nations will prevent future wars, but no one has yet made clear a method whereby the League can accomplish this much-sought-after end. We can safely say therefore that the World War is not the last in which nations may become involved. President Schurmann, in his open address at Cornell, said "the League cannot guarantee the absence of future wars." Secretary Baker, in an address at Lehigh University on September 24, said "That the danger of future wars has been lessened we cannot doubt, that it no longer exists we may not yet dare to hope. As we work for international agreements which will insure justice and lasting peace, we must nevertheless still educate and train our citizens that they may not be called unprepared should an emergency arise again." If it were possible to establish permanent peace and abolish all armaments and military preparedness, the whole earth would reecho with the cheers at the announcement of the tidings. You don't want war, but can you prevent it? As long as we face such a possibility we have the R. O. T. C.

2. During the World War there were 200,000 officers in the Army. Of every six officers, one had previous military training with troops, three were graduates of officers' training camps, and two came directly from civil life. It was to the collegiate institutions of the nation that we had to turn to supply the material from which the commissioned officer personnel of our citizen army was developed. More than 50,000 of our army and navy officers in this war were drawn from 150 institutions of learning.

Another lesson of the World War is the length of time it took this country to put an army in the filed, due to unpreparedness. It took us about sixteen months to put 2,000,000 men in France. Had there been some system of universal training to prepare us, the same number of men would have been mobilized in a much shorter time, and, as a result, the losses as well as the duration of the war would have been materially reduced. The losses due to unpreparedness cannot be measured, but in order to prevent such losses in the future and to have trained officer material, we have the R. O. T. C.

3. There are many benefits to be derived from military training. If you doubt it, ask the men who have returned to civil life from the service recently. Are they better mentally, morally, and physically? Granting that there are some exceptions, it has been my experience that the answer to this question has been in the affirmative. I have made it my business to ask this question, and the exceptions to the affirmative answers have been few and far between. The R. O. T. C. works for improvement along these lines. Discipline, by means of drills of various kinds and physical training, are given with the idea of setting the student down at the end of the year in better condition than when he was picked up at the beginning of the year. Lieutenant Colonel Koehler estimates that military training would increase the average life of the citizens of this country by at least five years. How much better it is to see a man going along the street with his head up and his chest out—glad to be alive—than to see him scuffle and slouch along, not knowing whether he

is alive or not! Much good would be done if all the 100,000 students mentioned above could reap some of these benefits, and for that reason we have the R. O. T. C.

4. Maj. Gen. Leonard Wood, in speaking to the men at the Plattsburg camps in 1916, said, "Equal opportunity means equal obligation." Everyone who enjoys the rights and privileges of this country has that obligation. What are we doing about it? Do we just live along and feel that it is an inborn right for each of us to enjoy the rights and privileges we find before us each day? Haven't we something to give in return, even after the sacrifices of the past war? Are we going back to the condition of unpreparedness that faced us on the sixth day of April, 1917? God forbid. To afford an opportunity to college students to meet this obligation we have the R. O. T. C.

Many have asked, "Why do we want military training? I thought that was the very thing we were fighting Germany for. Certainly we don't want to be a military nation such as Germany was." No, of course we don't. But let us remember that there is a wide difference between German militarism and preparedness. The whole German nation in its schools and in its pupils, in its books and in its papers, taught the principle that might is right. What we want is to see all the resources of this country used to develop its citizenry mentally, morally, and physically, so as to give each one a chance to do his share in the defense of his country.

D. J. MacLachlan,
Major Inf., Comdg. R. O. T. C. Unit,
Cornell University.

Society of Third Division

From Andernach, Germany, to Little Rock, Ark., is a long leap, but that is the jump made by *The Watch on the Rhine*, an eight-page weekly newspaper that the men of the Third U. S. Division edited, printed and supplied regularly to 30,000 readers during the six months previous to the departure of the division from Germany in August.

The publication, besides recording matters of interest regarding the troops still with the Third Division, which is located near Little Rock at Camp Pike, aims specially to keep fresh the memories of the days with the A. E. F. and to echo the spirit of all those who have at any time been members of the division.

The new office of *The Watch on the Rhine*, which is in Room 306, Board of Commerce Building, Little Rock, was opened October 18, and the first issue of the paper at its new location will appeared November 1. The paper will be published twice each month at the yearly subscription rate of $1.50.

Living Conditions in Service

The following is the text of an article that appeared recently in some of the eastern newspapers. It portrays accurately and authoritatively the conditions under which the service is operating today.

Clip it out and get it into the hands of your friends back home. Make the data contained in it the basis of personal letters to your friends of influence. Let the people know the conditions under which their Army exists and try to get them to provide a remedy. Every man can do his part. Start doing yours now.

More than one-fourth of all the officers of the combatant arms who were

in the Regular Army when the armistice was signed have resigned, and scores of other resignations were waiting the action of the President and the Secretary of War. The total number of resignations accepted is 1,999, which means that 32 per cent of all the officers in the Coast Artillery Corps, 30 per cent of the officers of the field artillery, 24 per cent of the cavalry officers, 28 per cent of the infantry officers, and 16 per cent of the official personnel of the Corps of Engineers have left the service.

The officers who are quitting the service, and more have resigned since the armistice than resigned during the entire history of the Regular Army prior to November, 1918, are the younger officers and lieutenants and captains, the ones who can least be spared. Virtually none of the field officers, whose salaries make it possible for them to make both ends meet during this present period of high cost of living, are resigning.

"The army," says a memorandum just issued by the Morale Division of the General Staff, "is in a very serious condition. The extraordinary high cost of the necessities of life has so reduced the standard of living to which officers have heretofore been accustomed that there has resulted a profound state of discontent and low morale in the service. . . . Those who resign are men of high initiative, force, energy, and self-reliance, military qualities which the Army can ill afford to lose."

The officers of the Army are now being paid on the salary scale passed by Congress in 1908, since which time no increases have been granted. In numerous instances the situation in which the younger married officers find themselves, as a result of their inadequate incomes, borders on the pathetic. It is of record that in scores of cases they have had to cancel their life insurance, to sell their Liberty Bonds, while their wives and daughters attend to all domestic work.

"The Army," the Morale Division memorandum continues, "is suffering economically from the great depreciation of the dollar. If money could be given something approaching its former value, or if the cost of the ordinary necessities of life could be lowered to approximately what it was before the war, no other relief would be necessary or desired. But if a readjustment of the purchasing power of the dollar cannot be assured, the only recourse would seem to be to restore in part at least the modest standards of existence formerly attained by officers and men by a greater aggregate in nominal pay.

"Officers find that under present conditions they simply cannot live on their slender pay, the purchasing power of which has been halved, and maintain themselves and their families in a modest and decent manner. They are financially embarrassed to a degree which jeopardizes efficiency. They state that the cost of food, clothing, shelter, fuel, lights, and sundries consumes the pay and allowances and often more, without permitting them to make any provision for the future, forcing them to draw upon their meager savings, preventing them from educating their children and from indulging in the most modest and ordinary recreations.

"What applies to officers in respect to difficulties in cost of living applies also to enlisted men. The economic pressure rests particularly heavily on the noncommissioned officers, especially those with families. This worthy class has rightly been called the backbone of the Army.' "

Harmony and Progress

SALT LAKE CITY, UTAH,
November 3, 1919.

THE EDITOR,

The following suggestions are submitted:

a. A single list, *i. e.*, promotion based on the total length of commissioned service and made to include all officers to include the grade of colonel.

I place this suggestion first because I am of the opinion that such a single list is entirely feasible and that for it to be put into effect would at once relieve the Army from 90 per cent of what now

tends to pull it apart. Army officers will tend to pull together as long as their personal interests coincide. They will begin to pull apart at the point where their personal interests tend to diverge. Promotion effects their personal interests more than any other one thing. To receive promotion or not to be promoted is success or failure. At the present time the Army does pull together on most things except those that directly or indirectly effect promotion. If a proposed increase of infantry affected each and every officer's promotion in exactly the same manner, then the chances are that 95 per cent of the officers of the Army would agree on the merits of the proposed increase.

b. Next in importance to a single list is the necessity to adopt a general staff policy, so that every officer may have a fair chance of making the general staff, and so that the very best officers may be selected for this duty. This would give a corps that the Army as a whole would have confidence in. Having established this confidence, if they have authority to direct, control, and coordinate the entire military establishment, it will not be difficult for them to take effective measures to promote harmony. Coordination and harmony are nearly synonymous terms.

c. I believe that poor discipline in the Army is responsible for a great many ills. Poor discipline lessens confidence and lowers morale, and thereby assists in creating discord. At the General Staff College, Langres, France, I listened to many lectures by prominent army officers just back from the front. They usually lectured on mistakes that had been made at the front. These mistakes included "Road Jams," "Firing into Friendly Troops," "Straggling," "Poor Communications," etc., etc. I never heard of a single case that was not due to one or two causes, either lack of preparation before the war or poor discipline. I believe that if there is a legitimate criticism of the Army, taken as a whole, that may be made at the present time, it is that our discipline is poor. And I further believe that good discipline is an important factor in promoting harmony and teamwork. It goes without saying that strict discipline is good only when there is absolute confidence on the part of everyone concerned that, although the discipline is strict, it is also just.

ALVA LEE,
Captain, Infantry, U. S. A.

Military Training Camps Association Endorses Infantry School

In a letter to the *New York Times* Mr. Tompkins McIlvane, the chairman of the Executive Committee, endorses the infantry school at Camp Benning in the following terms:

The creation of an infantry school fits exactly into the program of the Military Training Camps Association. While this association does not advocate a great standing army, it does advocate military preparedness, and its members know from experience that military preparedness demands training of the leaders of subordinate infantry units as a paramount consideration. The training camps created for the purpose of supplying officers for the war through which we have just passed met the exacting requirements imposed upon them in an efficient manner, considering all circumstances, but no thinking man believes that in three months we can produce an efficient captain to command 250 men in action. It was not true before the war, neither has it been true during the war. The problems confronting the leader of infantry troops have increased tremendously in complexity, and the infantryman must be trained now as an expert in seven instead of in one arm.

I believe that I voice the sentiment of the entire membership of the Military Training Camps Association when I say that the acquisition of the school at Benning and the complete installation thereat of the most modern equipment for training of infantry in the least possible space of time is ardently desired by all the members thereof, and that it will seriously disappoint this association if the project is not approved.

Editorial Department

Adjustment of Rank

The time has come for plain speaking with regard to the subject of temporary rank and the tangle of promotion and demotion which the course pursued by the War Department has brought about. The principles, if any, underlying that course are a matter of surmise only. No announcement, either official or unofficial, has been made on the subject. Analysis of the anomalous situation in which officers of the Army are placed today affords no clue as to the method which has produced it.

As to the situation itself, it is enough to say that it is without parallel in our military experience — a topsy-turvy status in which the majority of our distinguished leaders of a year ago find themselves today in positions of rank and responsibility subordinate to others, years their junior.

The task of demobilizing our war army was a difficult one, involving operations new to our experience. It was inevitable that any system whatever of reduction and consequent demotion, following upon the heels of our haphazard method of temporary promotion, would carry with it some temporary variations from the proper relative standing among Regular officers. This was recognized by all and accepted by all as incidental to the transformation from war to peace conditions. But no good reason appears why this situation should have been prolonged—why it should not have been given immediate attention and relief. On the contrary, every consideration of justice and fairness to the individuals concerned and of the morale of the Army as a whole pointed unmistakably to the wisdom of such action. Regular officers recognized the necessity for demotion and were fully reconciled to its consequences, but they assumed, as a matter of course, that it would be conducted in a manner to preserve to them their former relative standing in the service. When such proved not to be the case, they again assumed that measures would be speedily adopted to adjust the situation.

In common with all fair-minded officers, the INFANTRY JOURNAL has looked forward from day to day to an adjustment of the matter which would relieve a situation uncomfortable and embarrassing to seniors and juniors alike, and which would restore the service to a basis upon which its flagging morale might be rebuilt. This hope has been held out to the service for a period of more than three months.

Circular 439 assured the service of an adjustment which met with approval from all sides, notably from the joint committee representing the interests of all arms of the service. It provided for a fair and just arrangement under the present conditions and furnished, at the same time, a basis for future and permanent readjustment for which the majority of officers have contended for years. Every proper influence was brought to bear to insure prompt execution of the proposed plan. After two months of waiting, during which the original plan underwent one amendment after another, Circular No. 518 has made clear the fact that the Army cannot longer look to the War Department for relief from its present status, which must continue until the Congress comes to its rescue.

Many, perhaps the majority of officers

of the Army, are beneficiaries financially by the recent decision. Very few, if any, are voluntarily so. All are inclined to view the situation from the standpoint of the future. Permanent rank is the one consideration that counts in the mind of the worth-while officer. It is the solid foundation upon which the fabric of his chosen profession is built. No temporary advantage can compensate for jugglery which disregards and cheapens permanent rank and threatens the foundation of the profession.

The INFANTRY JOURNAL is keenly alive to the injustice of the situation which the latest decision has perpetuated for a period of months. Injustice to individuals is one thing and a thing bad enough in itself, but the great damage in this matter is the disregard the decision carries with it for the welfare of the service in general.

The damage must be repaired, or the service will suffer a setback from which it will not recover for years.

While unable to grasp the Secretary's point of view or to believe that he would in any way violate the intent of Congress by taking other decision, we are constrained to accept his suggestion that the matter is now one for the Congress to readjust, and therefore express the sincere hope that every possible influence will be brought to bear in an effort to effect a speedy and permanent relief from conditions that are not only intolerable to officers of the Army but destructive to the Army's morale and efficiency.

Promotion by Selection

When promotion is made purely by selection, what results may be expected? Every officer is the bitter rival of all officers of his grade. No matter what may be said to the contrary, this is true. It's human nature and cannot be changed. If an officer is fit for the position that he holds, he must be active, energetic and ambitious. He has studied and prepared himself for the grade that he is in and is doing the same things to fit himself for advancement to the next grade. However modest he may be, he believes he is at least as much entitled to promotion as any other man in the grade. If he is not selected for promotion, he naturally believes that he has been done a great injustice and will generally hate those promoted over him.

He will never be convinced but that those who "jump" him have done so through favoritism and political pull. Jealousies and hatred among officers are injurious to an army. They do not make for the cooperation and teamwork that is absolutely necessary to bring military operations to a successful conclusion. Why think of adopting a system that may bring about such conditions in the service?

Where Your Red Cross Dollar Went

What became of your Red Cross dollar?

The Red Cross has just rendered its great war-time accounting to the American people, in the form of a report by H. P. Davison, chairman of the War Council of the American Red Cross, covering the period from July 1, 1917, to February 28, 1919.

A large part of your dollar went straight to France. There it worked for the American soldier, giving him the cigarette he needed so sorely at the zero hour, providing the cup of hot chocolate which was put to his lips when he was carried in from the field,

broken and suffering, giving him the warm sweater which he needed as an extra protection against the benumbing cold. A little of that money went to help our sister republic whose war-weary people returned to find their homes nothing but a heap of dust and broken bricks. But most of it was spent on the American doughboy.

Another portion of the dollar went to the boys still here in the United States. The larger part of the money expended in this direction worked hard to give food or hot meals to the boys who left secretly on the big transports that steamed out of Hoboken in the dead of night, and to the fellows who arrived on early morning trains, homesick and weary, and hungry from the tedium of travel. Just before the armistice 700 canteens were in operation, manned by 55,000 workers, most of them volunteers.

Millions of Pies and Doughnuts.—When one considers the more than 10,000,000 cookies, pies, and doughnuts alone that the hungry khaki columns gobbled up, one readily imagines what the canteen grocery bill must have been.

In the twenty months which we are taking into account, the Red Cross served free refreshments 40,000,000 times. In other words, each soldier, sailor and marine in the service of the United States was served with free "eats" by Red Cross canteen workers on an average of eight times.

Part of the money spent for soldiers in the United States went to equip base hospitals for the Army and Navy in order that the boys the hospital ships brought back on stretchers might have healing and gentle care. Fifty-eight base hospitals were organized, fifty for the Army and eight for the Navy. Forty-seven of these were equipped by Red Cross chapters with complete outfits of beds, bedding, surgical instruments and other supplies and accessories, all of which were presented to the Government when the units were mustered in. Of the total, fifty-four served overseas and four in this country. In addition to this the Red Cross enrolled 2,489 physicians and fifty chaplains for service with the American forces, in addition to thousands of nurses and orderlies.

Camp service in America took another chunk of the Red Cross dollar. The comfort bag that was given to the sick soldier, the hospital hut, the cheery convalescent house, the Home Service that straightened out the soldier's domestic worry, the chocolate bars, the hot-water bags, the shaving soap, the checkers—the thousand and one things that made the getting-well period something better than a dreary blank—these were furnished to the American fighter by part of the Red Cross dollar. It is believed that, through its Camp Service, the Red Cross helped virtually every soldier, sailor and marine in the service of the United States.

At the Sign of the Red Cross.—A small slice of the Red Cross dollar went to Italy, to help American and Italian soldiers there. When the Italian army lost one hundred hospitals and two main field magazines of medical supplies in the Austrian offensive of 1917, the Red Cross rushed large quantities of gauze, cotton, drugs and other medical supplies and ten complete field hospitals for the relief of the thousands of Italian wounded pouring in from the front. Civilians, driven from their pleasant homes in the Venetian plains during the fierce enemy push in November, 1917, found food and drink at the sign of the Red Cross.

Most of the remainder of the Red Cross dollar brought food to the hungry, hot drink to the famished, medical relief and nursing to the sick, in thousands of towns and hamlets in other parts of war-stricken Europe and in Siberia.

Belgium, Rumania, Serbia, Armenia, Russia, and Siberia have drunk to the dregs the bitter cup of starvation, disease and death. In all these countries the Red Cross has administered the merciful help that is saving whole peoples from abject ruin.

Every ragged child and every ignorant peasant father or mother who has received hot soup or clothing from the Red Cross has a big spot in his heart for America. To many of them, the Red Cross is America, for it is all they know of that strange world across the sea. The effect of this in the future history of nations is incalculable.

Equal Distribution of Military Service

"Whatever military training or service is required for an adequate defense of the country," said Mr. George Hewitt Myers, secretary of the Army League of the United States, "should be distributed equally upon the shoulders of all as they are able to bear it. This is the essence of the principles of the democratic form of government. Our military policy should be so adjusted that the duties as well as the rights of the citizens should be equalized.

"If we are to adhere strictly to the principles of the Declaration of Independence and the Constitution of the United States, our laws should be so shaped that the Army and Navy of the country should consist of all the people instead of a military class.

"In working out a universal military system it should be done so as to interfere the least with the industrial affairs of the country. It is apparent, therefore, that this training should be taken before a young man takes up the work of life. From the Government's standpoint and from a military point of view it would be a waste of money to train young men much after the age of twenty-one. In the first place, all military authorities agree that a boy from sixteen to nineteen can be trained with less effort than after he becomes a man with fixed habits and a more fully developed physique.

"The backbone of the Army in the Civil War, and, as far as that is concerned, armies now in the great European conflict, consists of boys who entered military service before they were twenty-one. Aside from this, they should be trained before they reach the productive period and when military training will make them more efficient in every walk of life.

"In a discussion of this subject there seems to be a disposition to think that universal military service means taking men away from their business, out of their offices and out of the shops, and consequently working a real hardship on those who are called. As a matter of fact, the Government could not afford to train this class. What it would want would be the boys before they had become a source of income to themselves and their families. The training would really be an addition to the education which they receive in school and would eventually increase the productive power of the entire nation."

Universal Training

The system of universal training now being urged for adoption by Congress

would give the nation three distinct benefits that are greatly needed:

1. Thorough preparedness—a great reserve of citizen soldiers—which would render invasion of our country by a foreign army impossible. It would make further for peace by restraining the American people themselves. Governors, congressmen, editors and other influential citizens would reflect deeply before advocating war if they knew that their sons and nephews would have to do the fighting. An influence for peace would go out from every fireside.

2. Its disciplinary influence alone would be worth the cost and effort. Morally the nation would be uplifted, for young men receiving the discipline would become better sons, better heads of families, better citizens.

3. The physical betterment of the race alone would be worth many times the cost. Consider the value to the individual youth of eighteen or twenty of the searching physical examination now given recruits for the Regular Army. Consider what it will be worth to the young mechanic, the clerk, the railway worker, the factory toiler and the farm laborer to be physically trained in school, to be examined by medical experts without fee and to have their valuable advice on methods to overcome latent and hidden weaknesses of the vital organs, the vision, the hearing, the teeth and the feet.

The Reserve Officers' Department

There are 15,000 Reserve Officers of Infantry in the service today, the great majority of them men who have been through the war with combat troops. Their names and addresses are listed in the office of the Adjutant General, and apparently there the matter ends.

Like everyone else in the service they are waiting for something to happen. What that "something" is we have been unable to determine. Proceeding on the assumption that nothing is going to happen, we have decided to "start something" on our own hook. That something is a new department in the INFANTRY JOURNAL to be called "The Reserve Officers' Department," the objects of which will be:

1. The publication of matter of special interest to Reserve Officers of Infantry, with a view to keeping them in touch with the activities and progress of their arms of the service, both professionally and personally.

2. To publish monthly instalments of a course of training for Reserve Officers of Infantry which they may pursue in their homes during such time as may be available.

3. To provide a source from which Reserve Officers of Infantry may receive accurate and authentic information on professional subjects and questions that affect them professionally.

The initial course of training will consist of a series of Map Problems in Minor Tactics, the first of which appears in this number. The problem will appear in one number of the JOURNAL and "a solution" to it in a succeeding number. Maps on which the problems are to be based will be included in this number of the JOURNAL and should be preserved for future reference.

As a preliminary to the map problem there is published in this issue a conference on Military Map Reading based on a section of the Emmitsburg quadrangle of the Gettysburg War Game map. This is followed by a series of problems in map reading based on the 3-inch map of the Emmitsburg Quadrangle.

The solutions to the map problems will be worked out by the instructor's staff at the Infantry School at Camp Benning and will represent the best thought on the subject. In other words, these solutions will establish a system of infantry minor tactics that comes direct from the fountain head of infantry training. The JOURNAL has been increased by the number of pages necessary to provide space for the material to be included in the new department.

While this department is designed to arouse and keep up the interest of our Reserve Officers in the military profession, there will be much included in the several courses of training that will be of great value to the officers of the regular establishment.

Take the article on Map Reading in this number. Company commanders and officers charged with the conduct of the unit schools provided for in War Department General Order No. 112, recently published, will find a lot of material that will be available for their use. Should there be a demand for them we are prepared to furnish reprints and maps in any quantity that may be desired at reasonable rates.

Camp Benning Project Wins in House

On Saturday, December 13, the House passed the bill carrying the Camp Benning project by a vote of 183 to 128. The bill included other large items for the completion of training projects, most important of which were these for Camps Knox and Bogg, for the training of Field Artillery. In addition the bill carried appropriations for the Motor Transport Corps at Camp Holabird, Md., and Normoyle, Texas, the Engineer School at Camp Humphreys, the Signal Corps School at Camp Alfred Vail, New Jersey, the Chemical Warfare Service at Midland, Mich., and Edgewood Arsenal, Md., and a total of over $3,000,000 for the Air Service.

The provision carrying the Dayton-Wright project was defeated by a narrow margin. As passed by the House the Benning project carried $515,000 for the acquisition of the remaining tracts of land now under control or condemnation and $250,000 for emergency construction. The full construction program calls for a total of $1,776,463.

The discussion of the bill developed much bitter debate, but the sub-committee on Military Affairs of which Mr. Anthony was chairman, had followed the wise policy of visiting all of the important areas under consideration and knew, by personal inspection and close personal observation, the merits of each project. Many complimentary remarks have been heard in regard to the masterful manner in which the bill was handled. It was taken completely out of the domain of partisan politics and was presented strictly from the standpoint of natural military needs. Involving as it does a large number of projects for training of the character and scope needed in modern operations, the bill is among the most important projects presented to Congress for many years. Unfortunately some very meritorious projects were denied congressional support, but it is hoped that the way has been successfully prepared in debate for their favorable consideration before the Senate or in conference.

We reinforce the views recently expressed in the *Army and Navy Journal* on the splendid speech made by Mr. Crago of Pennsylvania on December 3, in favor of the Camp Benning project and take advantage of this occasion to express to Mr. Anthony and the other

members of the Military Affairs Committee our sincere thanks and deep appreciation. The bill goes before the Senate in the early days of December.

Φ

Status of the Pay Bill

Three bills have been introduced before the Congress to provide for an increase in the pay of the Army. They are known as the Stiness Bill in the House, the Wadsworth Bill in the Senate, and the Crago Bill in the House.

The following is the text of the Crago Bill:

That the base pay of all officers of the Army, Navy, Marine Corps, Coast Guard, and Public Health Service, contract surgeons, warrant officers Army Mine Planter Service, Army field clerks, and field clerks Quartermaster Corps be, and the same is hereby, increased 10 per centum per annum; and the pay of all enlisted men, and of all members of the female Nurse Corps of the Army and Navy is hereby increased 20 per centum: Provided, That such increase shall not apply to enlisted men whose pay, if it has already been permanently increased since April 6, 1917, is now less than $33 per month.

SEC. 2. That the provisions of existing laws which specifically limit to $5,000, $4,500, and $4,000 the pay of colonel, lieutenant colonel, and major in the Army and Marine Corps; and captain, commander and lieutenant commander in the Navy; and captain commandant, senior captain, and captain in the Coast Guard; and Assistant Surgeon General, senior surgeon, and surgeon in the Public Health Service are hereby repealed: Provided, That the base pay of all chief petty officers while holding active appointment shall be $99 per month, and those holding permanent appointment shall be $126 per month.

SEC. 3. That all officers and enlisted men, contract surgeons serving full time, warrant officers Army Mine Planter Service, army field clerks, and field clerks Quartermaster Corps, and members of the female Nurse Corps of the Army and Navy shall at all times be entitled to the number of rations per diem, or commutation therefor, that equal the number of rooms authorized as quarters for the rank or rating of such officers, enlisted men, or other persons above specified, the commutation value to be determined by the President on July 1 of each fiscal year, and for the current fiscal year the value shall be computed on the basis of 55 cents per ration.

SEC. 4. That the compensation of all officers and enlisted men on the retired list shall hereafter be computed on the pay established by this Act and on all allowances provided for officers and enlisted men of corresponding rank and rating on the active list: Provided, That nothing herein contained shall operate to reduce the pay or allowance of any officer or enlisted man now on the active or retired list.

SEC. 5. That hereafter when any officer, enlisted man, or other person named in this Act is ordered to make a permanent change of station, the United States shall furnish transportation in kind from funds appropriated for the transportation of the Army, the Navy, the Coast Guard, and the Public Health Service to his new station for the wife, children, and dependent parents of such officer, enlisted man, or other person: Provided, That if the cost of such transportation exceeds that for transportation from the old to the new station the excess cost shall be paid to the United States by the officer, enlisted man, or other person concerned.

SEC. 6. That there is hereby appropriated, out of any money in the Treasury not otherwise appropriated, such sums as may be necessary to carry out the provisions of this Act during the current fiscal year under the several appropriations respectively chargeable.

The Stiness Bill provides for thirty per cent increase on the base pay of officers and a fifty per cent increase on the base pay of all enlisted men. It does not include, however, a provision

for the removal of the restriction on longevity of the grades of major, lieutenant colonel, and colonel.

Hearings were held before the House Committee on this bill and also before the Senate Committee. A sub-committee of the latter, before whom the hearings were held, expressed itself as in favor of the measure, and as of the opinion that the logic of the hearings was irrefutable. An equally strong impression was made before the House Military Committee.

In the hearings before the Senate Committee, it was suggested that instead of having a flat 30 per cent increase, it might be more advisable to include a provision which would meet the high cost of living automatically. To this end, a bill was drawn up giving ten per cent increase to officers and 50 per cent to enlisted men, together with rations in kind, or commutation thereof, equal in number per diem to the number of rooms now authorized by law for the rank or rating of each grade. Upon this basis, the commutation of rations means an increase of twenty per cent in the salaries of the officers so that taken together with the 10 per cent increase on the base pay the bill gives a total increase of about 31 per cent. These are the main provisions of the Wadsworth Bill.

The Wadsworth Bill, which is practically the same as the Crago Bill, was unanimously reported out of the whole Senate Military Committee favorably to the Senate and has a place on the calendar. Instead of granting 50 per cent to the enlisted men, in this bill, an increase of 20 per cent is given to all grades except the lowest, which makes it conform to the Crago Bill in those respects. It also carries the provision of the Crago Bill which authorizes actual transportation in kind for the dependent families of officers and enlisted men, when changing station permanently. The increase in pay, the ration allowance and the transportation provision together provide material relief for enlisted men, especially those of higher grade and larger families.

In the House, the chairman of the Military Affairs Committee has appointed a sub-committee to consider the question of pay. This sub-committee has completed its work and is ready to report the result of its labor to the Committee as a whole. No report, so far, has been made by the Committee as a whole, presumably largely due to the fact that the chairman of the committee is temporarily absent. It is believed that prompt action will be taken at no distant date and the measure, to wit, the Crago Bill, or some form of it, will be reported favorably to the House. It is expected that the Wadsworth Bill will be brought up for action by the Senate at the first opportunity. At present, the railroad bill is under discussion and holds right of way. It is hoped that the bill in the House will be brought up for action promptly on its reference from the Committee. For this, a special rule is desired, and it is believed that the latter will not be withheld, in view of the justice of the pay matter.

All indications are that action of a favorable nature will be taken in both Senate and House when the matter comes up for action.

Everything possible is being done to get this legislation on the floor of the Senate and House for debate and a vote. There is every reason to believe it will receive favorable consideration.

Every officer of the Army in his

status as a citizen of the United States has the right to communicate directly with members of Congress on matters that concern him personally. The time honored adage, "The Lord helps those who help themselves," is particularly applicable to the situation we now face.

We feel confident in saying that members of Congress whom you know personally, or who represent the Congressional district from which you come, will be glad to hear from you personally on the subject.

The justice and necessity for an increase in the pay of the Army is patent to any man who will give the subject consideration, and the fact that the Army is now paid under a schedule that was provided in 1908 and with a dollar that is now worth less than fifty cents is the best argument that can be set forth.

Φ

Dealing with the Reds

Most insidious, dangerous and dreaded of all diseases with which mortals are affected is cancer. Once let its taint enter the blood and until now nothing but the knife will save, and that remedy must be applied in time if the operation is to succeed.

As with individuals, so with nations. While they maintain their pristine strength and vigor they have little to fear. It is when they become enervated, neglect the symptoms that tell the diagnostician that disease has secured a foothold, and close their eyes and ears to the warnings of their practitioners, that they succumb to foes within or without.

The most insidious and dangerous, and therefore to be the most dreaded, disease with which mortals and nations are alike afflicted is cancer. "Heaven preserve me from my friends; I will take care of my enemies," said a distinguished soldier. So America can say, with equal fortitude, "Heaven protect us from enemies within; those without, we will attend to ourselves."

Attorney General Palmer has played the part of the nation's medical adviser. He has diagnosed the disease and turned the searchlight upon the numerous symptoms whose significance had heretofore escaped public recognition. The Attorney General pronounces the disease cancer, and as a physician he prescribes the use of the knife. Not that the Surgeon General of the body politic proposes to cut off the heads of the radicals or even to curb their fanatic tendencies by means reputed to transform the raging tom-cat into a bunkie for a Belgian hare, though some think this might be done with profit to the country. Mr. Palmer proposes to apply the knife to the diseased parts and remove them from the body politic; in other words, to cut off and cast out the offenders against the peace and institutions which we hold dear.

In his report to the Senate concerning those who seek by force to overthrow the Government the Attorney General bares the disease and its progress. The natural reaction of the individual in such a case is to close their eyes and ears, to hope against hope, to minimize the danger, and even to fear the remedy more than the affliction. So with the nation—we are so busy with our own affairs and those of the world, strikes, the high cost of living, the holidays, taxes, and a thousand other more important subjects, that we close our eyes to the symptoms and our ears to the warnings and go on our way.

At least we would, except for Representative Martin L. Davey, of Ohio,

who proposes to put into the hands of our national surgeon-general, to continue the simile, the knife with which to cut clean from the country's vitals the parasites, to give him the purgative with which to clean out the hookworms, the serum to eliminate the bacilli of anarchy, bolshevism, or sedition by any other or whatever name it may be known.

Representative Davey has introduced a bill, H. R. 10650, 66th Congress, 1st session, prepared at the Department of Justice and drawn to enable this government, which is our government, to protect itself, which is us, against its enemies, who are our enemies. The bill is short, concise, comprehensive and effective. It reaches all forms of anarchy and sedition from that which flourishes in the cellar and outhouse to the parlor variety. No one who advocates the overthrow of our government by force could safely pursue his or her course under its provisions. Nor could they continue as members of an organization whose purposes are seditious.

But, best of all, it strikes at the root of the evil by providing for the deportation of any alien, and for the denaturalization and deportation of any naturalized alien—*after his sentence has been served.*

Americans are glad that this excrescence upon the body politic is of foreign origin, that up to the present, at least, it has made small progress except among aliens, naturalized or unnaturalized. But the magnitude of the evil is shown by figures submitted by Mr. Palmer. No less than three hundred and sixty-six radical publications, printed in foreign languages, are circulated through the United States. Of these, two hundred and twenty-two are published in this country and one hundred and forty-four are printed abroad. That the evil is spreading is indicated by the fact that there are one hundred and five radical periodicals published in English within *our borders.* Forty readers and translators are constantly engaged in the Department of Justice in checking up on the growth of radicalism and the preachments of its devotees. Sixty thousand radicals are listed, catalogued and indexed at the Department of Justice, and how many more are yet untested is a matter of conjecture. Numerically insignificant compared with America's millions, yet they are industriously spreading through the country their poisonous doctrines. Anarchists and plotters against the Government never sleep; they leave that for their victims. They are in the minority and propose to rule the only way a minority can rule, by terrorism, by force, by bloodshed. Hence, being in the minority neither discourages them nor deters them. Nothing will check them but the strong arm of the Government wielded dispassionately but unsparingly. They are deaf and blind to any argument except their own—*force.* The knife has been selected and whetted; it remains for Congress to hand it over to the physician who stands ready to use it most effectively.

The Davey bill should pass! Too long have the leave-takings of the Goldman-Berkman duo occupied place in the columns of the daily press, exciting the feeble-minded to adulation and emulation and nauseating the remainder of the public. Away with them and all their ilk. America's vitality will be improved, her constitution more robust, when these pests shall have been eliminated.

The Davey bill should pass!

Book Reviews

Experiences of the Great War, by Colonel Ashby Williams, N. A. Roanoke (Va.): Stone Printing & Manufacturing Co., 1919. Cloth, 8vo, 197 pages. Price, $2.00.

It is rare indeed that we have an opportunity to read after a really good writer who has actually been on the firing line. The author of this intensely interesting narrative was not only a soldier of exceptional merit—"a real fighting man"—but he has shown himself to be one of extraordinary power with a pen. He has given us both prose and poetry.

What a privilege it is to read what Ashby Williams, the author, has written of Ashby Williams the soldier! A Virginian by birth, imbued with the best sentiments of his people, known to them, admired and loved by those among whom his fortunes had been cast, a lawyer by profession, he went into the Great War wholly without military experience. But like many of his forebears in the Old Dominion had done in war, he manifested those natural qualifications of a soldier found among the men who followed Washington, and Lee, and Jackson. Had the war in France lasted, Ashby Williams would have attained great distinction as a soldier. As it was, he was most highly regarded in the 80th Division. Already he was well known and appreciated beyond the limits of his own regiment and brigade. So much by way of introduction of the writer. But what of his story?

The writing of history is an evolutionary process, involving four phases of development. The newspaper or contemporaneous phase, always over-colored and reflecting the deeper passions of those who write, has been passed in this instance. The next phase is the reflective and personal narrative phase, which we are now in. Next will come the official phase in which will be brought to light facts unknown by the actors; and last will come the truly historical phase, embodying a general perspective with the high lights and shadows which individual experiences cast over the controlling motives and influences of events as they occurred.

The reading public is unfortunately not always at pains or able to discriminate between the productions of these respective phases. Often a mixture of sheer romance, conjectures, personal observations, and experiences are dressed up with a few facts and presented to the public as history, and what is worse, it is greedily accepted as such. Years of critical study and writing then become necessary to unravel the facts from the fiction, and to disabuse the public mind of the errors into which it has fallen, and to overcome the false preconceptions of the event which has been unwittingly formed of it as a result of spurious history.

In Colonel Williams's narrative one finds no attempt to mislead. The author has committed neither a literary nor an historical sin. The historian is better off for his writing.

This narrative is purely a personal one. Commencing with the movement to France of the 80th Division in which he served first as a company and then as a battalion commander in the 320th Infantry, 160th Brigade, he has given a most vivid and accurate picture of those momentous days of the spring, summer

and Fall of 1918, including his experiences with the British in Picardy and Artois, and with the Americans in the St. Mihiel and Meuse-Argonne Campaigns. He does not deal with the actors and events "higher up." The story is one of that which he and those under him knew and saw with their own eyes. The influences which directed him, the motives of those who controlled his actions, play no part in this narrative, which at times is a gripping one.

To be sure, a tendency to the overdescription of unimportant and commonplace things makes the story drag a little for those who are already familiar with them. Herein lies the value of the work for people at large. Too often soldiers write for military critics, omitting all those minor details which the layman never sees, leaving them to the imagination of those whose minds cannot grasp that of which they have had no experience.

This book is written, not for military critics but for readers who wish to see, and understand, and feel as a soldier sees, and understands, and feels while under the terrible strain of battle—who wish to know what he thinks at the time, not afterwards.

The descriptions which the author gives of the country and the people are excellent and accurate ones—not of France, but of that part and those conditions of France which he had opportunity to see. A great distinction must be made between the two. Our people cannot be too careful to guard against judging France by what the fighting man saw of it. They should ever remember that the conditions surrounding him were abnormal in almost every respect.

There are many little gems of expression in this book which is by no means lacking in literary merit of a high order. The following passage is chosen at random:

I shall never forget that crucifix. It was the size of the living Jesus, with arms outstretched upon the cross, untouched by all the steel that had fallen there. It was like a ghastly sentinel standing at the entrance of the town, grieving for the destroyed firesides. A great pity seemed to fill my heart as I passed that image that night. I thought of the once happy and peaceful little village. I thought of the mothers and fathers and daughters and sons, and of the sweethearts who were accustomed in former times to come to that image and bend the knee and pray and perhaps confess their petty sins; and then thought of the desolation and the destruction, and of these same simple folk, somewhere in the world perhaps grieved and homesick for that little place; and then of the silent, sorrowful Saviour still watching the sacred spot and waiting for their return. The whole spectacle so touched me that I could not keep back the tears from my eyes as I thought of these things while we passed out of the little town and down into Ransart.

And again we quote, this time a passage which only one who knows at first hand could write:

Up in the line, with the responsibility of a battalion in the presence of a determined enemy, there was no time to think of men and men's feelings and sorrows, and I thanked God for that many a time, but now that the great responsibility had been removed, a reaction set in, and I thought long upon the sorrow and suffering of those who had been maimed, perhaps for life, and of my brave boys who had made the supreme sacrifice for their country and were lying dead upon the hills behind me. There was no glory in such thoughts as these. Indeed, there is no glory in the savage struggle of man against man, with its bloodshed and its suffering and death and all that, to one who takes part in it; there is only the horror of it; the glory is for those who view it from afar in a glamour of unreality. There is no glam-

our in scenes of that sort, no marching to the strain of song and music, no flying of flags, no exaltation; but tired in mind and body from the long night march, or exhausted from loss of sleep under the horror of bursting shells and poison gas, men go out to take a chance with death, stimulated alone by the excitement of danger and death and the deafening noise. Under the stimulus of the conflict their haggard minds are deaf to the simple sorrows and sympathies of man; but when the strain is removed, reaction sets in and they become again mere men with sympathies and sorrows and all the kindred feelings that God has placed in the heart. The presence of death brings one to the consciousness of his own infinitesimal self; there is no pride of heart, no self-exaltation there; relief brings out a heart of gratitude to God and of sorrow for man.

The chief value of Colonel Williams's story is that it, with many similar ones destined to appear, will give the historian of the Great War a personal knowledge of the actors in the drama, and form for him that background so essential to the accurate portrayal of the tragic events of a rapidly receding past. Not only the future historian but the present generals, and colonels, and other superior commanders, have much to learn of military value from this extremely frank narrative of a "fighting major" who lived on the firing line and knows whereof he writes. The author is to be commended and congratulated for this one more, and by no means the least, service he has rendered as a soldier.

American Ace Gives Credit to Infantry

Maj. James Messeries, one of the leading American aces who fought with Lufberry and Roosevelt and has fifteen enemy planes to his credit, expresses his opinion of the doughboy. He says:

Speaking as to which service is entitled to the credit of winning the war, I want to express my opinion as favoring the infantry. They were the ones who had to face most of the hardships, often having to attack without sufficient artillery preparation, facing all kinds of hardships, and bearing the brunt of it all in many ways.

Reserve Officers' Department

Map Reading

GETTYSBURG WAR GAME MAP, SHEET P-11

Q. What is a military map?

A. A military map is one which shows the relative distance, direction and elevation of all objects of military importance in the area represented.

Q. What is map reading?

A. The ability to grasp the general features of the map and to form a clear mental picture of the ground represented by it.

Q. What are the essential elements of map reading?

A. 1. The conversion of map distances into corresponding ground distances: that is, an appreciation of the scale of a map.

2. An appreciation of compass direction.

3. A knowledge of the conventional signs and symbols employed by map makers to represent the various topographical features of the country included in the map.

A knowledge of contours and what they are intended to represent.

NOTE.—The map used in this conference on map reading is Sheet P-11 of the Emmittsburg quadrangle of the Gettysburg War Game Map prepared at the Army Service Schools, Fort Leavenworth, Kansas.

SCALES

Q. What is the scale of the map?

A. Twelve inches equal one mile.

Q. What do you understand by the statement "12 inches equal one mile?"

A. That 12 inches measured in any direction on the map represents one corresponding mile on the ground; that any 6 inches measured on the map represents ½ mile on the ground. In other words, the scale of a map is the ratio between two points on the map and the corresponding points on the ground.

Q. In what ways may the scale of a map be expressed?

A. 1. By a plain statement in words and figures as given in the previous answer: "12 inches equal 1 mile."

2. Graphically, that is, by drawing a line on the map, dividing it into equal parts and marking them, not with their actual lengths, but with the map distance that they represent.

3. By a Representative Fraction, contracted in practice to R. F.

Q. You note that the R. F. for our map is not stated. What is it?

A. The R. F. of our map is 1/5 280. For convenience expressed R. F. 1: 5280.

Q. How do you arrive at this conclusion?

A. A R. F. is a fraction reduced to unity in which the numerator represents the map distance and the denominator represents the ground distance both in the same unit of measure. We know that our map is 12 inches to 1 mile. We make a fraction thus:

$$\frac{\text{Map Distance}}{\text{Ground Distance}} = \frac{12 \text{ inches}}{1 \text{ mile}} =$$

$$\frac{12 \text{ inches}}{63{,}360 \text{ inches}} = \frac{1}{5280}$$

This means that any one unit of measure on the map will represent 5,280 of the like units on the ground. To prove this we have 12 inches or one foot on the map represents one mile or 5,280 feet on the ground.

Q. What scales are prescribed by the War Department in making military maps and sketches.

A. 1. For maps on which the organization of defensive positions are shown: 12 inches to 1 mile. Our war game maps are made on this scale.

2. For position maps, place and outpost sketches, 6 inches to 1 mile.

3. For road maps and sketches, 3 inches to 1 mile.

4. For strategic map, 1 inch to 1 mile.

NOTE.—Our Geological Survey maps are drawn on R. F. 1: 62,500, which is nearly 1 inch to 1 mile. To be exactly 1 inch to 1 mile they would have an R. F. of 1: 63360.

Q. What are the two classes of map scales?

A. 1. Working scales.
2. Reading scales.

Q. What is a working scale?

A. The scale used by the topographer in making the map, as paces, strides, feet, lengths of a chain or rope, revolutions of a wheel, etc.

Q. What is a reading scale?

A. A reading scale is one used in laying off distances on the map. It is in a standard unit of measure with which we are familiar, such as miles, yards, feet, etc.

NOTE.—In some cases the working and reading scales may be identical, as when the topographer measures his distances on the ground in yards and our reading scale is also in yards.

Q. Suppose you have a map that has no graphical scale line on it but has an R. F. or a statement that so many inches equal one mile. How would you go about measuring distances between points on the map?

A. It would be necessary to construct a graphical scale.

NOTE.—Modern maps usually have a graphical scale on them. Should they not, it is a very simple matter to solve a scale problem and construct a scale provided you have the R. F. or data from which you can deduce it. With the following simple formula any scale problem may be solved.

Let m = the number of units of measure to be represented by the scale line. In linear scales make this always even 1,000 or 2,000, so there is nothing further to remember.

Let p = the number of inches in the unit of measure. For a scale of yards p would be 36, for a scale of 30-inch paces p would be 30, for a scale of meters p would be 39.37.

Let n = the denominator of the representative fraction. For 12 inches to the mile n would be 5,280.

Let x = the number of inches in the scale line to represent m units of measure.

Then: $\frac{m \text{ times } p}{n} = x$.

Or, if you prefer a rule, the following is applicable: Multiply the number of units of measure in the scale line by the number of inches in the unit of measure and divide by the denominator of the R. F. The quotient will be the number of inches in the scale line. Applying the formula, let us work out the scale of yards for our map.

m = 1,000 yards, the number of units of measure to be represented by the scale line.

p = 36 inches, the number of inches in the unit of measure.

n = 5,280, the denominator of the R. F.

Then m times p, divided by $n = x$.

x = 6.81, the number of inches in the scale line to represent 1,000 yards.

Draw a line 6.81 inches long. Divide it into five equal parts, each representing 200 yards. Divide the left division into two equal parts, each representing 100 yards. You have your scale ready for use.

Q. How do you determine the distance between two points on the map?

A. 1. By measuring along the edge of a piece of paper the distance between the two points and applying that distance to the graphic scale on the map, and reading directly from it.

2. To measure the distance from one point to another along a winding road or course place the edge of the paper along each straight stretch, placing the point of a pencil or pin at the edge of the paper at each such successive point where the direction changes and shift the edge of the paper around to follow the courses until the total distance has been covered. Apply this total distance to the scale of the map and read direct.

3. The distance may be measured by a pair of dividers as follows. Place leg No. 1 of the dividers at the initial point; spread leg 2 out to the first change of direction; holding leg 2 in place swing leg one around until a line between the points of the two legs is in prolongation of the next course, then holding leg 1 in place spread leg 2 out to cover the course. You thus have your first and second stretches of the distance accurately laid off between the points of your dividers. Continue this process until the entire course is covered; apply the distance to the graphic scale on your map and read direct.

Q. What is the distance from road fork 443 *to road fork* 395, *via* 428.

A. 2,775 yards.

Q. You have two machine guns on top of hill 462. You observe a mounted patrol on the unimproved road at the farmhouses at A. You decide to open fire. What range would you give your gunners?

A. Range, 960 yards.

Q. You are in command of a combat patrol of one squad. You have arrived on the hill at B southeast of the Clagett farmhouses. You observe a small body of the enemy engaged in the destruction of the railroad bridge at C. You decide to open fire. What range would you give?

A. Range, 600 yards.

Q. Your platoon is marching via the 443-415-428-395-383 road. It has halted for the regular hourly rest at the road fork 443. It is now 9 a. m. You continue the march. At what time will you reach road fork 383?

A. The distance is 3,580 yards. Marching at the rate of 80 yards per minute the platoon will march 45 minutes, and will reach road fork 383 at 9.45 a. m.

DIRECTION

Q. How is the north point of a map indicated?

A. By a line placed on the map at a convenient place with an arrow pointing to the north.

Q. On our map there is no line showing the north. How would you determine which is north?

A. When we get a map with no north line on it we can usually safely assume that the reading on the map runs east and west. This makes the sides of the map as we look at it run north and south. The top is north, the right-hand side east, the left-hand side west, and the bottom south. This is exactly the case with the map on which this conference is based.

Q. How is the direction of one point from another stated in military map reading?

A. By the points of the compass. One point is said to be north, east, south or west from another point. When it lies between the north and east points it is said to be north (so many degrees) east; when between the east and south it is said to be south (so many degrees) east; when between the south and west it is said to be south (so many degrees) west, and when it is between the west and north it is said to be north (so many degrees) west.

Q. What is the direction of 395 from 428?

A. It is east.

Q. What is the direction of 383 from 443?

A. It is north 45 degrees east.

Q. What is the direction of road fork 443 from 415?

A. It is south 20 degrees east.

Q. What is the direction of 427 from road fork 443?

A. It is west.

Q. What do you understand by orienting a map?

A. Placing the map in such position that every road, stream, or other feature on the map will be parallel to its actual position on the ground; in other words, to make the map and the ground it represents coincide.

Q. What are the objects of orienting the map?

A. To enable you to pick out and identify on the ground all the features shown on the map.

Q. By what methods may a map be oriented?

A. 1. When the map has a magnetic meridian on it: Place the north and south line of compass parallel to the magnetic meridian and turn the map until the north end of the needle points to the north of the circle. If the true meridian only is shown on the map, you must know the declination and make allowance for it. If the declination is not more than 4 or 5 degrees, the orientation on the true meridian or along the up and down borders of the map will be sufficiently accurate for all practical purposes.

2. When you have no compass or the meridian is not known on the map: (*a*) If you can locate on the map your position on the ground and can identify another place on the map which you can see on the ground, shift the map around until the two points on the map are aligned on the distant point on the ground and you have the map oriented. (*b*) By reference to a straight road or line of railway on which you may be standing, turn the map until the conventional symbol points in the same direction as the feature that it represents. In both of these methods the points used for orientation should be as far apart as possible, and in any case they should be more than an inch apart on the map.

Q. How would you locate your position on the map?

A. 1. When the map has been oriented by compass. Sight along the ruler at an object on the ground, at the same time keeping the ruler on the plotted position of this same object on the map. Draw a line towards yourself. Locate another point on the ground that is plotted on the map and repeat the process. The intersection of these two lines is your map position. These lines should form an angle of not less than 30 degrees and not more than 150 degrees. Get the angle as nearly 90 degrees as practicable.

2. If the map has been oriented by means of a straight line drawn between two map points, it will be necessary to draw but one line from an object on the ground, and the intersection of this line with the line already on the map will be your location on the map.

Q. Suppose you are at the railroad bridge at C. How would you orient your map?

A. Turn the map so that the railroad runs in prolongation of the line on the map that represents it, and your map is oriented.

Q. You are standing on hill 462 where there is no well-defined feature on which to orient your map. You have a box compass. How would you orient?

A. Lay the compass on the map with its box edge parallel to the sides of the map—the 0–360 point towards the top of the map. Now turn the map until the compass needle reads zero, and your map is oriented.

Q. You are out in the open fields on the high ground about 900 yards east of the Clagett farm. You have a compass. You want to get your location on the map approximately accurate. How would you go about it?

A. First orient your map with the compass as explained above. Now lay a ruler on the map, pivot it on the Clagett house on the map, and sight it at the Clagett house on the ground. Draw a line towards yourself. You are on this line somewhere. Now go around to the top side of the map and in like manner pivot your ruler on the map location of the farmhouse at C and point it at the farmhouse on the ground. Draw a line towards yourself. Your position is also on this line somewhere. At the intersection of the two lines is your position. This process is technically called "resection."

Q. You are traversing (walking) along the road 395–428, you see a point on the high ground to the south that you want to locate on your map without going over there. How would you do it?

A. At 395 orient your map. Pivot your ruler at 395 and sight it on the distant point. Draw a line. The point must be on this line somewhere. When you get to 428 repeat the process, that is, orient your map, pivot your ruler on 428 and sight on the distant point. Draw a line. The point must also be on this line. Where the two lines intersect is the location of the distant point on the map. This is what is technically known as "intersection."

CONVENTIONAL SIGNS

Q. How are the topographical features of the country included in a map shown?

A. By means of conventional signs that all persons essaying to use the map should be familiar with.

Q. What is the characteristic of these conventional signs?

A. They are drawn as nearly as practicable to resemble the features on the ground that they represent.

NOTE.—The conventional signs are the A, B, C's of map reading. You must be absolutely familiar with them if you would read a map. One of the best methods of learning them is to practice making them at odd moments until you are familiar with all of them.

The following illustrations (p. 601) show the system of conventional signs employed in making the Gettysburg war game maps and their 3 inches to 1 mile reproductions. Study and practice them until you learn them thoroughly.

Q. Locate an improved road.

A. The 395–428 road.

Q. Locate an unimproved road.

A. The road leading to the southwest from 415.

Q. Locate a single railroad.

A. That paralleling the 443–415–428 road.

Q. Locate a barbed-wire fence.

A. Fence paralleling railroad and to east of it.

Q. Locate a smooth-wire fence.

A. The fence along almost any road on the map.

Q. Locate a stream under 15 feet wide.

A. That running east and west through the north central part of the map.

FIG. 1.

Q. Locate a stream over 15 feet wide.
A. In the southeast corner of the map.
Q. Locate embankments and cuts.
A. See those along the railroad.
Q. Locate a bridge.
A. That at C on the railroad.
Q. Locate houses and barns.
A. The Clagett farm south of 415.
Q. Locate corn land.
A. The big field northwest of the Clagett farmhouses.
Q. Locate cultivated land.
A. North and south of hill 462.
Q. Locate forest land.
A. Along the west slope of the valley running south from 383.
Q. Locate an orchard.
A. East of road fork 428.

CONTOURS

Q. What are the contours?
A. They are lines of equal elevation. Lines cut from the surface of the earth by imaginary horizontal planes at an equal vertical distance from each other.
Q. What do contours show?
A. 1. The relative elevation of all points on the map.
2. The slope of the ground between any two points on the map.
3. The shape and form of the ground included in the area covered by the map.
Q. What are the principal characteristics of contours?
1. All contours either join or both ends extend to the edge of the map. When they join they either represent a hill top or a depression—a hill when the smallest closed contour is higher than the next one to it and a depression when it is lower.
2. Where the contours are equally spaced the slope is uniform. Where they are close together the ground is steep, and where they are wide apart the slope is gradual.
3. A watershed is the high ground between two water courses. The water flows away from it on both sides and is indicated by the higher contours bulging out towards the lower ones.
4. A water course is the low ground between two watersheds. The drainage from both sides of it joins in one stream and is indicated by the contours bending sharply towards the higher ones.
5. A sadle or col is the space between the summits of two adjacent hills. It is indi-

cated by two contours of greater elevation on two sides of it and two of lesser elevation on the other two sides.

6. A spur is an under feature that projects out from one of the main topographical features.

Q. You see at the bottom of the map a statement "Scale of Slopes," and underneath it a line divided up into parts and each part marked 1°, 2°, 3°, etc. What do you understand this means?

A. This is what is technically called a scale of "Horizontal Equivalents." It is used in map making to locate contour points on the map and is used in map reading to determine the slope of the ground at any point. We know that the ground will rise 1 foot on a one-degree slope in 57.3 feet, and that it will rise 5 feet in 5 times 57.3, or 286.5 feet. We simply measure off 286.5 feet or 95.5 yards, and that is the H. E. for 1 degree. Test this by measuring off the scale of slope for 1 degree and apply it to the graphical scale on the map, and you will find that it measures 95.5 yards. Now to find the H. E. for the other degrees we simply divide the 95.5 by the numbers 2, 3, 4, etc., and lay off the quotient on the scale of slopes.

Q. Just below the scale of slopes we have the statement "Contour interval 5 feet." What do you understand by that?

A. It means that the vertical distance between contours on the map is 5 feet. That if the contours were marked on the ground one would be 5 feet vertically above the other.

Q. You also see the statement "Datum mean sea level." What does this mean?

A. That all the points on the map are so many feet above the level of the sea. It means that hill 462 is 462 feet above the mean level of the Atlantic Ocean.

Q. Locate a watershed on the map.

A. The ridge running north and south near the eastern edge of the map. The farmhouses at A are on the top of the

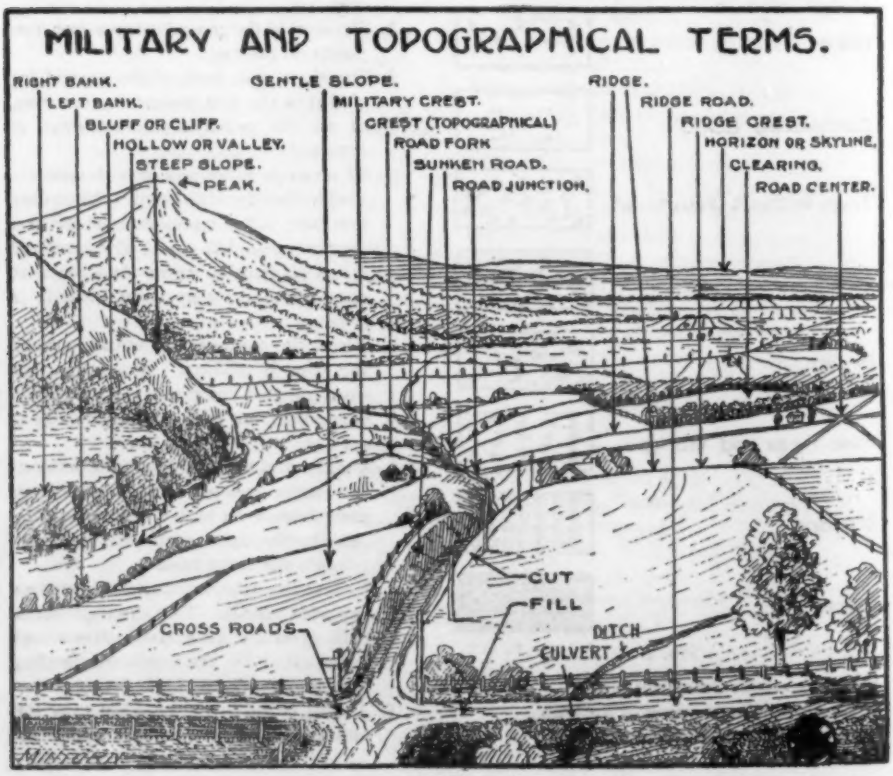


FIG. 2.

watershed. Trace out the 445-foot contour on this watershed and see how it runs.

Q. Locate a water course.

A. The stream running across the map from south to north through the east central part of the map. Trace it out and see the watersheds that it lies between.

Q. Where is the steepest ground on the map?

A. On the wooded slopes of the watershed to the east of farmhouses at A.

Q. Where is the most generally gently sloping ground on the map?

A. In the cultivated fields in the northwest corner of the map.

Q. Trace out the 440-foot contour and see how it runs on the map.

A. We note that the 440-contour comes on the map at the southeast corner, runs north to the end of the watershed, then doubles back along the west side of the watershed, winds its way to the north of hill 462 and then towards the northwest, where it leaves the map. It comes on the map again at the western edge north of hill 443, comes by Clagett farm, runs by road fork 443, thence south, and leaves the map at the south edge just west of the railroad. Again, small portions of it come on and leave the map at the north edge.

Q. Can you see road fork 415 from road fork 443?

A. No. The high ground southeast of the Clagett farmhouses intercepts the line of sight.

Q. Can you see road fork 383 from hill 462?

A. Yes. There is no higher ground lying between the two points.

Q. Can you see the Clagett farmhouses from the farmhouses at A?

A. Yes.

Q. When there is doubt regarding the visibility of one point from another how can you determine the matter definitely?

A. By making a profile along the line of sight. This is made by plotting to scale on a piece of profile or cross-section paper: (a) The point from which the observation is made, (b) the point to be observed, and (c) any point that may intercept the line of sight.

Draw a line from (a) to (b), the platted points. If it touches (c) the points are not intervisible. If it does not touch (c) they are visible one from the other.

NOTE: Fig. 3 shows the method of constructing a profile along the line (a)—(b) on the map with point (c) intercepting. The point (b) is not visible from (a). Get some cross-section paper at a stationery store and plot several profile lines as given on the map (d) to (e) and (f) to (g). Note that where the contours are close together on the map the line on the profile is very steep and that where the contours are far apart on the map the profile line is not so steep. By a careful study of profile lines you can gain much knowledge of contours and what they represent.

Q. Where would you post a sentinel on hill 462 to get the most extended view to the north?

A. At the north point of the hill just west of (c).

Q. What is the slope of the ground between x and y?

A. One degree. Apply the scale of slopes between adjacent contours and you can determine the slope at any point on the map. The shape of the contours will give you the conformation of the ground at any point.

PRACTICAL PROBLEMS IN MAP READING

Map: Emmittsburg Sheet

SCALES

Q. What is the scale of this map expressed in inches to the mile?

Q. You want a scale of meters for this map. How would you go about getting it (a meter is 39.37 inches)? Try out the formula.

Q. What is the distance from the road fork at Four Points to road fork 481 at Longs via the 365–405–468–481 road?

Q. You have two machine guns on hill 442. (south 30 degrees west from Four Points). You have located an enemy detachment at Martin's Mill. You decide to open fire. What range do you give your gunners?

Q. What is the distance from road fork 481 at Longs to Fair Play via Emmittsburg?

Q. Your platoon is bivouacked at Four Points. It has been ordered to rendezvous at road fork 443 (on the Frederick Turnpike) at 9.37 a. m. What time will you have to start your march?

Q. Your company has been ordered to entrain at Emmittsburg at 10.47 a. m. You are required to be at the entraining point 30 minutes before the time designated. You

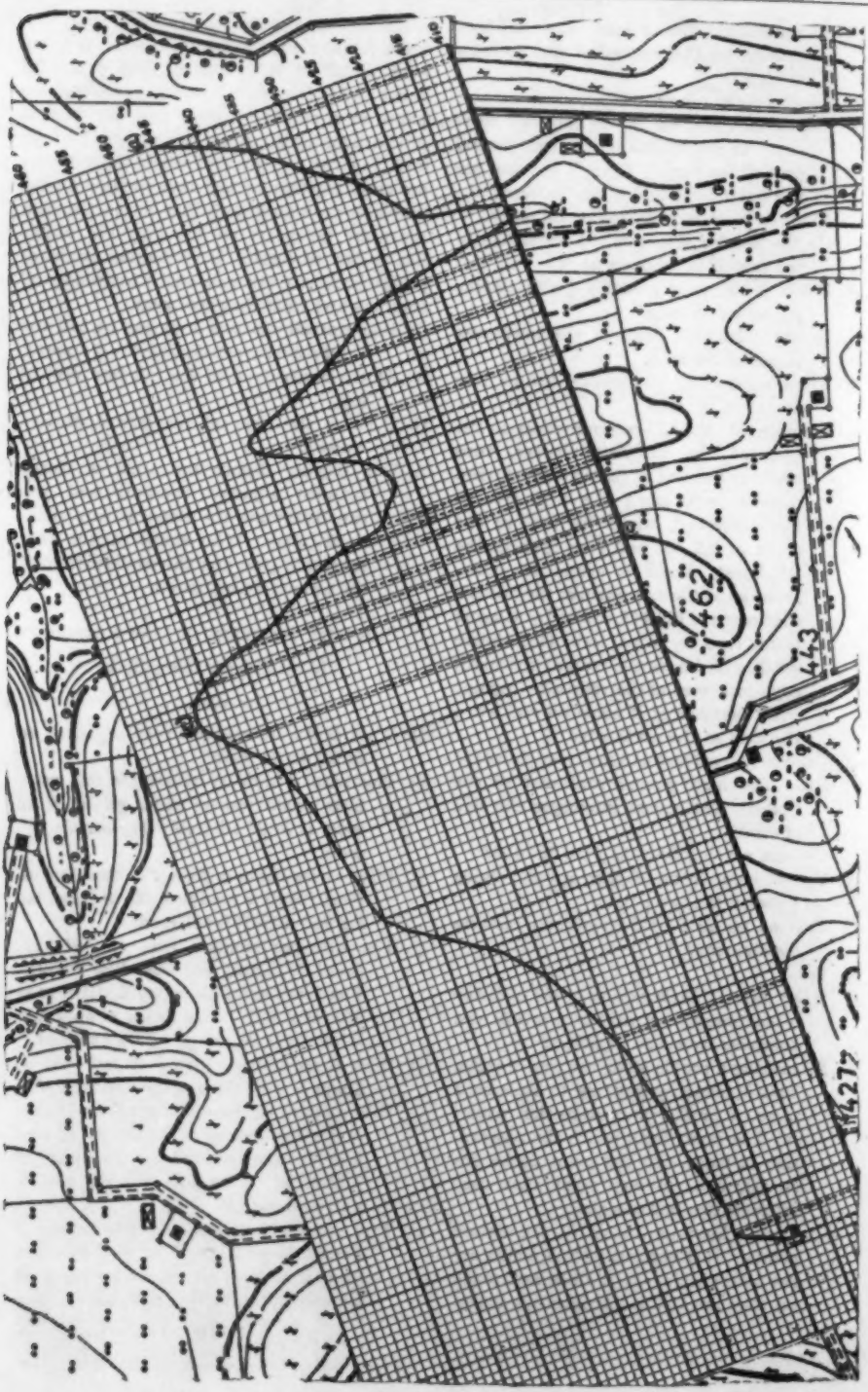


FIGURE 3

are bivouacked at Thomas Creek Church. All roads are available for your march. What time will you start marching?

Q. Your platoon is marching south on the Fairplay-Emmittsburg-Longs road. You start from the cross roads at Fairplay at 9.00. At what time will you pass road fork 488, road fork 422 (west of St. Joseph's College), cross-roads 466 (west of Motters)? Where will you make a halt?

DIRECTION

Q. What is the direction one from the other of the following points: Emmittsburg from Longs; Fairplay from Emmittsburg; Four Points from Longs; Motters from Four Points; Martin's Mill from Cumps Mill; St. Joseph College from Cumps Mill; St. Joseph's College from Four Points?

Q. You are somewhere on the high open ground east of Longs. You have a compass. How would you go about locating your place so as to indicate it on your map?

Q. You are reconnoitering along the road from Thomas Creek Church north to 449. You discover a machine-gun nest across Toms Creek in the edge of the woods east of hill 469. How would you locate it definitely on a map to send back with a message?

CONVENTIONAL SIGNS

Q. Locate the following by conventional signs:

1. *Improved road bordered by smooth wire fence.*
2. *Unimproved road.*
3. *Railroad. Is it single or double track?*
4. *Various classes of fences.*
5. *Streams over 15 feet and under 15 feet wide.*
6. *Embankments, cuts and arroyos.*
7. *Buildings.*
8. *Bridges.*
9. *Corn, cultivated land.*
10. *Wooded country.*
11. *Orchards.*

Q. Locate the following ground forms on the map: A hill, a spur, a saddle or col, a watershed, a water course.

CONTOURS

Q. With a red crayola trace out the 440-foot contour. This is the master contour of the map. From this you will be able to get the lay of the land.

Q. With a blue crayola trace out the important streams.

Q. With a green crayola trace out the 420 contour.

Q. What is the vertical interval of the map?

Q. Can you see St. Joseph's College from Four Points?

Q. Can you see Emmittsburg from Longs?

Q. Can you see Longs from Thomas Creek Church?

Q. Can you see Crumps Mill from St. Joseph's College?

Q. Draw a profile from road fork 481 at Long's to Thomas Creek Church.

Q. Your command is bivouacked south of Longs. Where would you post a support of one platoon to observe to the north? Where would you locate the sentinel posts?

Q. How would you go from Four Points to Crumps Mill without being observed from the enemy observation post at St. Joseph's College?

Q. Where is the lowest point on the map?

Q. Where is the highest point on the map?

Q. What is the difference in elevation of the Clagett farmhouses and the cross roads at Fairplay?

Q. Where is the first point south of Fairplay on the Fairplay-Emmittsburg road where you come in sight of Emmittsburg?

Military Training

FOREWORD

YOU are interested in military training—otherwise you would not be reading these articles. You want to know what to do and how to do it! In the text which follows we will try to give you a clue. No one can do more than that for you. From the clue, you must work your own way. We can tell you some of the tricks of the trade and how to use them, and we can suggest means whereby you may devise others.

The work of instructing is the most important task before the military man. Every officer and noncommissioned officer, whatever his rank or grade, is engaged in instructing, one way or another, most of the time. It occupies years of preparation and it is an essential part of the preparation for command.

A man may become a good commander without being a good instructor, but the chances are against him. Unless he knows how to build up an organization—instruct and train it—he

will not know its capabilities and its limitations. His efforts to command and lead it will be like those of a man who knows nothing about an automobile except how to drive it. He can start it, stop it, turn it around, make it go fast or slow. He gets along all right as long as the running is smooth, but he cannot adjust it or repair it. He is an operator, not a mechanic. He is a driver, not a leader. He can never become a leader because he does not understand those under him, does not sympathize with them, does not possess their confidence—he is out of touch with them.

Some men are born with the essential qualities of leadership. These qualities evince themselves from the beginning. They are the boys who in school organize, direct and lead all effort. They are what we call natural leaders. The reason is simple. It is the same by which any man may become a leader. These boys know what they are driving at and how to go about it. They get results and inspire confidence.

To get results and thereby become a leader in the military game lies within the ability of every man.

The rules are few and simple. They are:

Know what you want to do.

Know how to go about it.

Know men.

To be successful as a drill instructor, as a trainer of men, you must possess several essential qualifications.

Knowledge.—You must have knowledge not only from the point of view of giving you that confidence which enables you to instruct with authority, but also from the soldier's point of view, that will enable him to accept the instruction as coming from one who knows. You must master your subject down to the very last detail, for failure to do so will make you timid and uncertain. When this happens, your usefulness as a drill instructor is seriously impaired.

Example.—Your men are the mirror in which your image is truly reflected. They are your severest judge; they retain your slightest word and watch your every action. Continually take stock of yourself. Are you everlastingly up to your job? Are you on your toes and chock-full of enthusiasm? You cannot get snap and enthusiasm out of your men unless you have it yourself. How do you give your commands? Are they such as stimulate your men to vigorous action? Do your men seem to jump at your commands of execution? They should; if not, what's the matter? Never blame your men for lack of "pep" or stupidness. They are all physically and mentally sound. There is no difference between them and those "snappy," neat-appearing men, drilling close by under another instructor. Your men were given to you as raw material; what they are now is not their fault. If they are better drilled, snappier, neater than other soldiers it is simply because you are the better instructor of men; if the reverse, you are at fault; don't blame it on the men. Look your men over and judge yourself by what you see in them.

Look back over every day's work. Have you done your part?

Command.—To command is to give orders and to see that they are carried out; to foresee events and to provide for them; to strive to know at every moment the feelings of the men, to reward them, to provide for their needs of every sort, to exercise authority with justice; to maintain strict discipline, which embraces conditions on the march and in billets, neatness of dress and general bearing, exterior marks of respect, upkeep of arms and equipment, and correctness of maneuver (since the better troops are disciplined the better they fight); to be proud of the organization, to bring up its morale at rest as well as in battle; to keep, under all circumstances, a courageous heart, a firm will, a wide-awake mind, a clear eye and a cool reason.

On the drill field and in lecture rooms, the errors made by you are easily camouflaged. In peace time, on the maneuver fields, the results of poor training show only as marks against your efficiency record. In war, on the field of battle, these same errors are paid for by the blood of the men whom you instruct.

Drill Talks.—The American soldier wants to know why a thing is done thus and so—what the reason is for doing it in a particular way. If you can give him a reason, if you can show him why, your task is half done. The short drill talk provides you with this opportunity to tell why.

You must not simply talk at random. You must prepare your talks so you can go about the matter systematically. Dope out what you are going to say on the subject and jot down a few notes so you will not omit vital parts of it—so you will cover all the essential features in the time allotted.

You will find these drill talks throughout this series of articles. Look them over. They

may give you some ideas that are new to you or at least recall some old ones to your attention.

Rest periods are included in training programs for the purpose of permitting the men to relax and rest. They should not be permitted to degenerate into loafing periods. By a proper utilization of this time much good may be accomplished without in the least interfering with the rest and relaxation of the men. A little informal conference on some of the points concerning the training in hand may have a far-reaching effect in creating and maintaining enthusiasm. It is not necessary for it to take the form of a talk or lecture. Something of interest, if communicated even to a few men, will be passed on by them to all the unit—a question or two addressed to your men about the condition of their muscles and general physical condition. If the muscles are sore, explain why. How they are getting along with their work and whether there are any points they do not understand. Take care to answer all questions in a kindly manner, thus encouraging the men to put their difficulties and troubles up to you. They will appreciate your interest. You will gain their confidence, and you will find them willing to go "all the way" for you. You must not, however, make the mistake of attempting to cultivate their friendship by familiarity. Lack of dignity in bearing and language is not proper. You can be correct, simple and dignified without holding them at a distance. No other period offers so splendid an opportunity to get close to your men as these rest periods; you must not pass them by. Many men get discouraged if they are backward in the drills at first. Notice this closely, and talk to them. Some story about your own experiences in early drills will make them feel that they are not exceptions, and will increase their morale. A good soldier is often made by some little personal attention like this.

NOTES

Progress.—When you advance to new movements, all that has been learned before must not be slighted. Be careful to exact just as much attention to correctness of details of execution in the movements already mastered as you will in those that you are to teach in the future. The further you proceed the more there is to watch. If you slow down, or relax your vigilance on what you have taught, your work loses a large part of its value. A group of new soldiers may be likened to a field of young corn. The planter cannot cease his care when the corn has sprouted. He must prevent weeds from springing up which if allowed to grow would, if not entirely crowd out the corn, at least seriously interfere with it and result in a scanty harvest of stunted growth and inferior quality. So must the instructor constantly watch his men that they do not acquire bad habits of execution, dress, etc., for, like weeds in the field of growing corn, if not immediately corrected, they will seriously interfere with the efficiency of the soldier.

Correcting Errors.—No mistake should be allowed to pass unnoticed. The squad should be immediately halted and the particular man or men told of their mistakes and the reason why they made them, whenever such is possible. The instructor should then explain how the movement should be properly executed and immediately cause it to be done again and repeated until a reasonable degree of perfection, depending on the state of training, has been attained. Thereafter, whenever the same mistake is made, halt the squad at once, call their attention to the fact that they are repeating a former error, and have it correctly executed. Never, under any circumstances, allow recruits to continue committing errors, and always spot at least one man, and more if possible. The drill instructor who has not the ability to see all errors committed will never have a well-drilled squad, and some better instructor will have to finish his work.

Helping the Backward.—Opportunities to help some who have had trouble with the execution of the movements must always be sought and incidently interest others in the perfection of themselves. Pick out a man who is having trouble and, in a friendly, personal way, demonstrate the movements for him. Ask the opinion of one or two of the other men, standing close, on certain points. Try to get them to demonstrate voluntarily what trouble they have, if any, or how excellent they are. You will soon have an interested audience, the men will willingly demonstrate their own ability and will try to help others that are backward. If you are clever, you can easily cultivate this feeling in your organization, and it will be invaluable, for as much will be accomplished by the men themselves outside of drill period as you can accomplish in it.

Names of Officers—Duties of N. C. O.—Opportunities for Advancement.—Teach your men the names of their company commander and other officers. Many men do not know them. Explain the duties of all ranks, the authority

given to sergeants and corporals, and the respect that is due those positions; then bring home to them the fact that a neat, clean, snappy soldier does not remain a private for long, but, by strict attention to duty and good snappy work, soon wins promotion. Even a commission is open to those who will work for it.

Mouth Closed.—See that your men keep their mouths closed. If you see a man standing or marching with his mouth open, you may take it for granted that his brain is not working, his thoughts are wandering, he is not taking in very much of what you are saying or what you are doing. When a man goes to sleep, his jaw drops and his mouth opens; that is because his brain has stopped working. That's a pretty small point, but one of great importance.

Uniforms.—Watch closely the uniforms and equipment. Many new men have the habit of pinning the neck of the O. D. shirt up around the neck, so that it resembles the collar of the blouse. This is not regulation and must not be permitted. Caution against marking their equipment in any manner. The hat should be worn so that the brim is parallel to the ground, never on the side. Particular instances can be corrected in these periods, and a caution now and then to the entire organization, when formed, will avoid the growth of these peculiarities of dress among your men.

N. C. O. School.—Encourage all men to attend N. C. O. school. Don't make it compulsory, except for N. C. O.'s, but let it be understood that anyone desiring to be promoted should show, by his attendance at this school, his effort to take advantage of every means to perfect himself. Explain to the men that they will learn many valuable things, not only regarding drills but in scouting, patrolling and other subjects not covered by their own schedule. When you notice a new man in the N. C. O. class, ask him a question or two that you are reasonably sure he can answer. This will give him confidence in himself. He will surprise you later on by answering questions that some of your N. C. O.'s cannot answer. Learn his name so that it will not be necessary to point at him or to say "You new man over there." This embarrasses him, and he will probably think twice before coming again. Make it a point to know your men by name. It will greatly increase their liking and respect for you and make them feel that they are somebody and are being treated like men.

Minor Tactics

PROBLEM NO. 1

An Advance Guard

Maps: Guide Map and Emmitsburg Sheet

Situation:

The enemy (Red) has invaded Blue territory and is advancing on Gettysburg from the west. His patrols are reported west of Monterey and in the vicinity of Newman, on the Chambersburg Pike.

A Blue infantry brigade, marching on Gettysburg via the Taneytown–Harney–Gettysburg road, halts for the night 26–27 September in the vicinity of Taneytown.

A left flank guard, consisting of one battalion of infantry, halts for the night on the Monocacy River in the vicinity of the Stull farm (southeast corner of the Emmittsburg sheet).

At 6.40 a. m., 27 September, Company A, which has been designated as the advance guard, is assembled at the bridge over the Monocacy River northwest of the Stull farmhouse. Based on the orders of the battalion commander, Captain A, commanding the advance guard, issues the following verbal orders to his assembled officers and noncommissioned officers.

(Note.—The company is organized at full strength as provided for in paragraph 239, Infantry Drill Regulations (Provisional) 1919.)

"Enemy patrols are reported west of MONTEREY and in the vicinity of NEWMAN on the CHAMBERSBURG PIKE. Our brigade marches on GETTYSBURG this morning by the TANEYTOWN–HARNEY–GETTYSBURG road. Our battalion continues its mission as a left flank guard. The main body of our battalion follows the advance guard at a distance of about 500 yards.

"This company forms the advance guard.

"Lieutenant X, with the first platoon, will form the advance party. March at 7.00 o'clock by the STULL–383–437–402–421–404–452–444–FAIRPLAY road.

"Lieutenant W, with the second platoon (less second section), will form a left flank guard. March in rear of the advance party to road fork 383 and then proceed via the 383–420–THOMAS CREEK CHURCH–449 road, thence across country, about parallel to the march of the battalion.

"The rest of the company will form the support and follow the advance party at a distance of about 400 yards.

"The rolling kitchen will join the battalion train.

"I will march with the support.

Special Situation No. 1:

You, Lieutenant X, are in command of the advance party consisting of the first platoon. It is now 6.45 a. m.

Required:

The details of the action that you, Lieutenant X, would take and the orders that you would issue to your platoon.

(Note.—The platoons are organized as provided for in paragraphs 161 and 162, Infantry Drill Regulations [Provisional], 1919.)

Special Situation No. 2.

You, Sergeant R, have been detailed to command the point, consisting of the first squad. Your men are at the bridge. It is now 6.55 a. m.

Required:

What do you do?

(Note.—Solutions should include all arrangements, orders and details of troop leading exactly as they would occur in the field under actual service conditions.)

Special Situation No. 3.

You, Lieutenant W, are commanding the second platoon (less one section) designated as the left flank guard. It is now 6.45 a . m.

Required:

What do you do?

Special Situation No. 4:

You, Lieutenant W, have arrived at road fork 383 with your command.

Required:

What action do you take?

Special Situation No. 5:

It is now 8.20 a. m.

Required:

1. Plat on the map the location of all of the elements of the advance guard at this time.

2. Indicate the location of the head of the main body of the battalion.

Special Situation No. 6:

You, Sergeant R, have arrived at road fork 452. The two leading men of the point have turned east on the road towards 444. Your remaining six men are behind you on the road leading south. At this moment you observe about a squad of the enemy on foot moving around in the woods towards hill 604. They have apparently just arrived. Several horses are being led to the rear through the woods. At this moment, rifle, and what you estimate to be automatic rifle fire, opens on the advance party from the woods on the southeast slopes of hill 591.

Required:

What do you, Sergeant R, do?

Special Situation No. 7:

You, Lieutenant X, are marching at the head of the advance party when the fire from the woods to the northwest opens on you. You have sustained three casualties in the platoon. Sergeant R has signaled "Enemy in sight, in small numbers" and pointed in the direction of hill 604. At this time you hear rifle, and what you estimate to be automatic rifle fire, from the direction of Cump's Mill.

Required:

What action do you take?

Special Situation No. 8:

The left flank guard is moving north on the umimproved road 600 yards east of road fork 437. The leading man of the point is about 100 yards south of the farmhouses at the road fork. You, Lieutenant W, hear firing to the northeast. At this moment long-range rifle, and what you estimate to be automatic rifle fire, is opened on you from the high ground east of road fork 485.

Required:

What do you, Lieutenant W, do?

Special Situation No. 9:

You, Captain A, are at the head of the support of the advance guard when the things happen as set forth in Special Situations Nos. 7 and 8. Information of the situation has been sent to you by visual signals and messages.

Required:

What action do you take?

Special Situation No. 10:

The enemy patrols have withdrawn to the north, northwest and west. Firing has ceased. There were nine casualties in the advance guard, all of whom had to be evacuated. The advance guard is continuing the march. You, Captain A, are marching at the head of the support. When you arrive at a point 800 yards north of road fork 444, you receive the following message from the battalion commander:

"The battalion will halt for one hour on the 444–Fairplay road with the tail of the column at road fork 444. Take necessary action for the security of the battalion during this halt."

Required:

Your orders and instructions.

Special Situation No. 11:

You, Lieutenant W, commanding the left flank guard, receive the following message from the advance guard commander by motor cycle messenger:

"Enemy in my front has withdrawn to north. The battalion will halt for one hour on the 444–Fairplay road with the tail of the column at 444. The advance guard will cover the approaches from the north and northwest. You will cover the approaches leading from the west. I will be at the road fork 1,200 yards northwest of road fork 444.

Required:

The action you take and the dispositions you make to carry out your mission.

Special Situation No. 12:

All the troops of the advance guard have been disposed in accordance with your orders. You, Captain A, have made an inspection and adjusted dispositions to meet your desires.

Required:

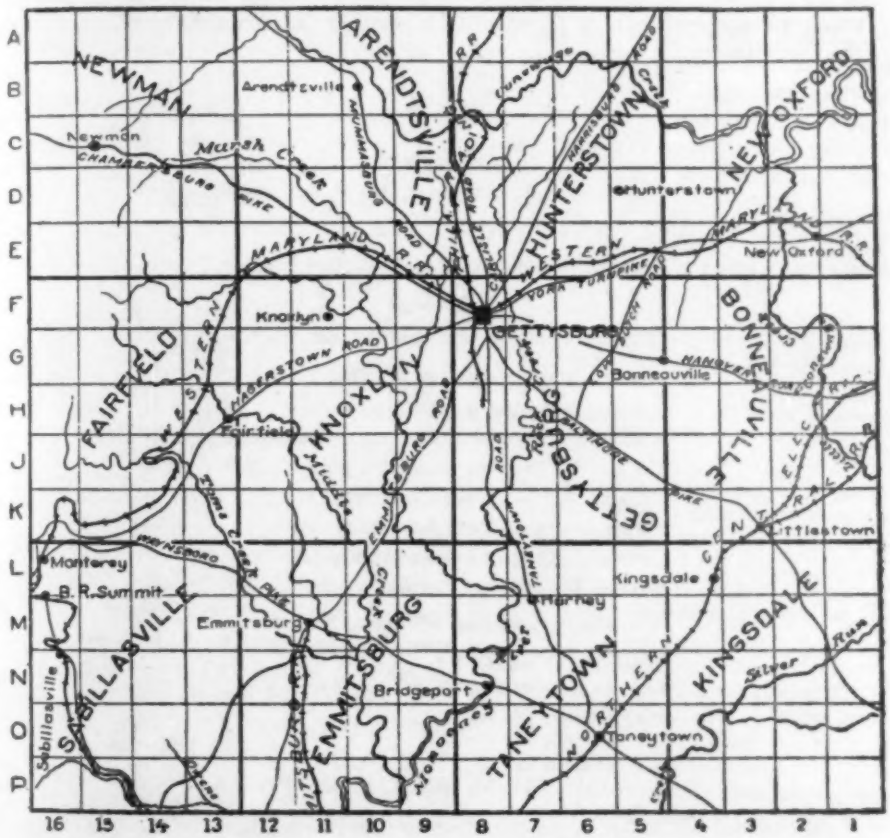
A sketch showing the location of all elements of the advance guard (less the left flank guard), ten minutes before the march is to be resumed.

Special Situation No. 13:

All of the troops of the left flank guard have been disposed in accordance with your orders. You, Lieutenant W, have made an inspection and adjusted the dispositions to meet your desires.

Required:

A sketch showing the location of all the elements of the left flank guard ten minutes before the march is to be resumed.



GUIDE MAP—GETTYSBURG-ANTIETAM WAR GAME MAPS

THE UNITED STATES INFANTRY ASSOCIATION

"The object of the Association shall be to promote the efficiency of the Infantry arm of the military service of our country by maintaining its best standards and traditions, by fostering esprit de corps, by the dissemination of professional knowledge, and by exchange of ideas as to the utilization of such knowledge with particular reference to the rôle of Infantry in modern war."—Article III of the Constitution.

OFFICERS

President:

BRIGADIER GENERAL JOHN L. HINES, U. S. Army.

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Secretary:

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CONDITIONS OF MEMBERSHIP

All commissioned officers in good standing, or former commissioned officers of honorable record of the regular or volunteer military or naval service, including Reserve Corps, and of the National Guard are eligible for regular or associate membership in the Association. Membership dates from the first of the month following the date of election. Both officers and soldiers who have been awarded the Medal of Honor and the Distinguished Service Cross may be elected to honorary membership on application.

Dues are $1.00 annually, payable in advance. Members may obtain the INFANTRY JOURNAL for $2.00 per year. The Infantry Association is not responsible for opinions expressed in published contributions.

All communications should be addressed to the Secretary, the United States Infantry Association, Room 508, Union Trust Building, Washington, D. C. Cable address: Infantry, Washington.

Annual Election

At a meeting of the Executive Council held at the offices of the Association in Washington on the evening of Saturday, December 20, the ballots that were cast were counted and the following officers of the Association were declared duly elected for the ensuing two years in accordance with Article VII of the Constitution.

President

Brigadier General John L. Hines, U. S. Army.

Vice-President

Lieut. Colonel Hanson E. Ely, Infantry.

Executive Council

Colonel Peter Murray, Infantry.
Lieut. Colonel John McA. Palmer, Inf.
Lieut. Colonel Briant H. Wells, Inf.
Major Dennis E. Nolan, Inf.
Major Campbell King, Inf.
Captain George A. Lynch, Infantry.
Captain Evan E. Lewis, Infantry.

Secretary

Major W. H. Waldron.

The new Executive Council will meet early in January at which time it will consider all resolutions passed and submitted by the Branch Associations. Based on these the Council will adopt a set of resolutions. These will be sent out to all Branch Associations for a vote on their ratification. If these resolutions are ratified they will then be adopted as the policy of the Association and every effort will be exerted to see that they are carried out.

The following gentlemen were elected as Honorary Members of the Executive Council:

Colonel John Q. Tilson, Member of Congress from Connecticut.
Major Davis Elkins, Senator from West Virginia.
Lieutenant Colonel Charles S. Whittlesey, formerly of the 77th Division.

The Branch Associations

Many new regiments appear this month in our list of Organized Branch Associations. Some of the regiments that have been unable heretofore to organize are now in process of organization and we hope to include them in our list next month.

A number of the Branch Associations have sent in resolutions that have been adopted by them. In general, they are endorsements of the Leavenworth or Camp Grant Branch resolutions that were sent to all Branch Associations. To publish all of these in the JOURNAL would consume much space and in many cases would be merely a repetition.

Fort Leavenworth:
President, Major General J. H. McRae; Secretary, Captain F. W. Brabson.

Washington:
President, Colonel B. H. Wells; Secretary, Colonel G. A. Lynch.

Fifth Division:
Camp Gordon, Ga.; President, Brigadier General Wilds P. Richardson; Secretary, Major Rufus A. Byers.

Sixth Division:
Camp Grant, Ill.; President, Colonel C. Reichman; Secretary, Captain G. B. Bucker.

Central Department:
Chicago, Ill.; President, Colonel D. B. Devore; Secretary, Lieut. Colonel P. P. Jacobs.

Second Infantry:
Camp Sherman, Ohio; President, Captain J. L. Ballard; Secretary, Captain J. L. Ballard.

Third Infantry:
Eagle Pass, Tex.; President, Colonel G. A. Weiser; Secretary, Captain H. C. Brown.

Fourth Infantry:
Camp Pike, Ark.; President, Major N. E. Callen; Secretary, Captain Fred L. Black.

Sixth Infantry:
Camp Gordon, Ga.; President, Colonel G. L. Townsend; Secretary, Captain G. L. Febiger.

Seventh Infantry:
Camp Pike, Ark.; President, Major Austin P. Prescott; Secretary, Major Sidney G. Brown.

Eighth Infantry:
American Forces in Germany, Coblenz, Germany; President, Lieutenant Colonel M. H. Thomlinson; Secretary, Lieutenant Colonel G. G. Bartlett.

Ninth Infantry:
Camp Travis, Tex. President, Colonel Harris Pendleton; Secretary, Captain Frank C. Foley.

Tenth Infantry:
Camp Custer, Mich.; President, Colonel J. P. O'Neill; Secretary, Captain Edward L. McKee, Jr.

Eleventh Infantry:
Camp Gordon, Ga.; President, Colonel R. H. Peck; Secretary, Captain E. P. Lukert.

Twelfth Infantry:
Camp Meade, Md.; President, Lieutenant Colonel Alfred Brandt; Secretary, Lieutenant Sherman K. Burke.

Fourteenth Infantry:
Camp Custer, Mich.; President, Lieut. Colonel F. W. Kobbe; Secretary, Captain E. H. Burt.

Fifteenth Infantry:
Tientsin, China; President, Colonel W. M. Morrow; Secretary, Captain R. A. McClure.

Seventeenth Infantry:
Camp Meade, Md.; President, Major H. M. Quesenberry; Secretary, Captain A. J. Funk.

Eighteenth Infantry:
Camp Taylor, Ky.; President, Colonel C. A. Hunt; Secretary, Captain B. H. Chastaine.

Nineteenth Infantry:
Douglas, Arizona; President, Colonel John P. Madden; Secretary, Captain O. B. Abbott.

Twentieth Infantry:
Fort Crook, Nebraska; President, Colonel J. E. Morris; Secretary, Captain Stephen Peretzky.

Twenty-first Infantry:
Fort George Wright, Washington; President, Lieut. Colonel A. Mitchell; Secretary, Captain G. W. Eagles.

Twenty-second Infantry:
Fort Jay, N. Y.; President, Lieut. Colonel F. L. Davidson; Secretary, Captain C. W. Yuill.

Twenty-third Infantry:
Camp Travis, Tex.; President, Colonel H. A. Eaton; Secretary, Captain P. F. Hall.

Twenty-fourth Infantry:
Columbus, N. M.; President, Major Paul X. English; Secretary, Lieutenant Alexander R. Bolling.

Twenty-fifth Infantry:
Camp Stephen D. Little, Nogales, Arizona; President, Colonel Earl C. Carnahan; Secretary, Second Lieut. E. A. Grupe.

Thirtieth Infantry:
Camp Pike, Arkansas; President, Lieut. Colonel T. F. McNeill; Secretary, Major Jay Zorn.

Thirty-second Infantry:
Camp Kearney, California; President, Colonel Allen Smith; Secretary, Captain Albert Birmele.

Thirty-fourth Infantry:
Camp Funston, Kans.; President, Colonel L. L. Gregg; Secretary, Captain E. L. Pell.

Thirty-fifth Infantry:
Camp Lewis, Wash.; President, Captain B. A. Yancey; Secretary, Lieutenant L. R. Nachman.

Thirty-sixth Infantry:
Camp Devens, Mass.; President, Colonel Sylvester Bonnaffon; Secretary, Captain Thomas G. Bond.

Thirty-seventh Infantry:
Laredo, Tex.; President, Colonel P. L. Winn; Secretary, Captain N. P. Groff.

Thirty-eighth Infantry:
Camp Pike, Ark.; President, Colonel Ephraim G. Peyton; Secretary, Regimental Adjutant.

Thirty-ninth Infantry:
Gary, Ind.; President, Colonel P. H. McCook; Secretary, Lieutenant A. Gluckman.

Fortieth Infantry:
Camp Sherman, Ohio; President, Captain R. W. Ashbrook; Secretary, F. S. Mathews.

Forty-first Infantry:
Camp Upton, New York; President, Lieut. Colonel F. E. Overholser; Secretary, Captain J. R. Walker.

Forty-second Infantry:
Camp Upton, N. Y.; President, Colonel J. R. Lindsey; Secretary, Lieutenant G. O. A. Daughtry.

Forty-third Infantry:
Camp Lee, Va.; President, Colonel S. L. Faison; Secretary, Captain L. E. Toole.

Forty-fourth Infantry.
Presidio, San Francisco, Cal.; President, Colonel W. K. Jones; Secretary, Captain C. A. Shephard.

Forty-fifth Infantry:
Camp Dix, N. J.; President, Colonel H. Glade; Secretary, Captain J. B. Sweet.

Forty-eighth Infantry:
Camp Jackson, S. C.; President, Colonel H. R. Lee; Secretary, Lieutenant F. H. Partridge.

Forty-ninth Infantry:
Fort Snelling, Minn.; President, Colonel C. Gerhardt; Secretary, Captain F. S. Scobie.

Fiftieth Infantry:
A. E. F.; President, Colonel F. J. McConnell; Secretary, Lieut. Colonel H. B. Crea.

Fifty-first Infantry:
Camp Grant, Ill.; President, Colonel C. Reichman; Secretary, Major L. H. Watson.

Fifty-second Infantry:
Camp Grant, Ill.; President, Colonel Harold L. Jackson; Secretary, Captain Norris A. Wimberley.

Fifty-third Infantry:
Camp Grant, Ill.; President, Colonel E. L. Butts; Secretary, Major C. L. Cohen.

Fifty-fourth Infantry:
Camp Grant, Ill.; President, Colonel A. T. Smith; Secretary, Captain C. S. Brodbent.

Fifty-sixth Infantry:
Camp Funston, Kans.; President, Colonel A. L. Bump; Secretary, Captain J. E. Copeland.

Fifty-eighth Infantry:
Camp Dodge, Iowa; President, Major W. Coffin; Secretary, Captain P. R. Hudson.

Sixtieth Infantry:
Camp Gordon, Ga.; President, Major B. A. Allworth; Secretary, Lieutenant R. C. Hamilton.

Sixty-first Infantry:
Camp Gordon, Ga.; President, Captain L. B. Glasgow; Secretary, Lieutenant J. F. Smith.

Sixty-second Infantry:
Camp Lee, Va.; President, Colonel C. Barth; Secretary, Captain J. E. Wharton.

Sixty-third Infantry:
Madison Barracks, New York; President, Colonel R. Alexander; Secretary, Captain W. S. Paul.

Fourteenth Machine Gun Battalion:
Camp Gordon, Ga.; President, Captain E. D. Patrick; Secretary, Lieutenant F. U. McCoskrie.

Fifteenth Machine Gun Battalion:
Camp Gordon, Ga., President, Captain F. A. Irving; Secretary, Captain Buhl Moore.

Sixteenth Machine Gun Battalion:
Camp Grant, Ill.; President, ——; Secretary, Lieutenant R. A. Kinloch.

Seventeenth Machine Gun Battalion:
Camp Grant, Ill.; President, ——; Secretary, Major J. C. Daly.

Infantry Journal Advertiser

GENTLE HINTS
No. 60

WASHINGTON, D. C.
JANUARY 1, 1920

1. This page has been run in the INFANTRY JOURNAL for a period now of years. Sometimes it may have been interesting; at other times we are sure it was not. It is like the youth who was asked if his college was coeducational. He replied "As to that, some say it is, and some say it is not."

2. Our own conclusion is that the page as written has served its time, and is entitled to an honorable discharge with "service, honest and faithful," even if not brilliant.

3. Even in discontinuing the page in its present form we do not wish to be misunderstood. The marvels of advertising can never grow stale; its wonders are apparent on all hands. An hundred thousand dollar expenditure for advertising is not at all unusual in the budget of big business.

4. Advertising is used for many other things than to sell goods. It is also used to sell ideas. In the latter capacity moreover it is frequently more remunerative than in simple merchandising.

5. Some day we may take up the story again, but, in this farewell, we want to thank our advertisers for the genuine support they have given us, and to congratulate our members on the lessons in teamwork they have learned. It is cooperation that wins every time. And cooperation is the Infantry Way! It is the Only Way!